

REGULAR, 3/8/2022 10:30:00 AM

BE IT REMEMBERED that on March 08, 2022, there was begun and holden a REGULAR session of the Commissioners Court of Jefferson County, Texas, with the following members and officers present and participating except those absent as indicated:

Honorable Jeff Branick, County Judge

Commissioner Vernon Pierce, Commissioner Pct. No. 1

Commissioner Darrell Bush, Commissioner Pct. No. 2

Commissioner Michael Sinegal, Commissioner Pct. No. 3

Commissioner Everette D. Alfred, Commissioner Pct. No. 4

Honorable Zena Stephens, Sheriff

Honorable Laurie Leister, County Clerk

When the following proceedings were had and orders made, to-wit:

Notice of Meeting and Agenda and Minutes
March 08, 2022

Jeff R. Branick, County Judge
Vernon Pierce, Commissioner, Precinct One
Darrell Bush, Commissioner, Precinct Two
Michael S. Sinegal, Commissioner, Precinct Three
Everette "Bo" Alfred, Commissioner, Precinct Four



**NOTICE OF MEETING AND AGENDA
OF COMMISSIONERS' COURT
OF JEFFERSON COUNTY, TEXAS
March 08, 2022**

Notice is hereby given that the Commissioners' Court of Jefferson County, Texas, will meet at **10:30 AM**, on the **08th** day of **March 2022** at its regular meeting place in the Commissioners' Courtroom, 4th Floor, Jefferson County Courthouse, 1149 Pearl Street, Beaumont, Texas.

Said meeting will be a **Regular** for the purpose of transacting the routine business of the County. Persons with disabilities requiring auxiliary aids for services who wish to attend this meeting should contact the County Judge's Office to arrange for assistance.

In addition to the routine business of the County, the subject of said meeting will be the following:

9:45 a.m. -Announcement of an executive (closed) session pursuant to Texas Government Code Section 551.071 to consult with our attorney regarding pending or anticipated litigation.

Jefferson County has taken steps to minimize the exposure of COVID-19 by implementing the following steps to allow the public to view the Commissioner's Court meeting.

The following options are available:

View live with audio from the County Webpage: https://co.jefferson.tx.us/comm_crt/commlink.htm

Listen to audio by calling 346-248-7799 Meeting ID: 917 160 6532# Participant ID: # The court will also have a question and answer session at the end of the meeting. If you would like to ask any questions of the Court, please be on the phone call. The Court will give a question and answer session at the end of the meeting as time allows. You will be called upon by your last 4 digits of your phone number. If you do not have any questions, you can pass.

Please be mindful that the audio portion of this meeting will be of better quality from the website.

INVOCATION: Darrell Bush, Commissioner, Precinct Two

Notice of Meeting and Agenda and Minutes
March 08, 2022

PLEDGE OF ALLEGIANCE: Michael S. Sinegal, Commissioner, Precinct Three

PURCHASING:

1. Consider and approve specifications for Invitation for Bid due April 6, 2022 at 11:00 AM (IFB 22-011/JW) Taxiway A Rehabilitation at the Jack Brooks Regional Airport. This project will be funded by the Federal Aviation Administration (FAA) Airport Improvement Program (AIP) Grant #39 to the Airport.

SEE ATTACHMENTS ON PAGES 10 - 370

Motion by: Commissioner Sinegal

Second by: Commissioner Bush

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

2. Consider and approve specifications for Invitation for Bid (IFB 22-014/JW) Drainage Improvements for Drainage Ditch No. 110-B CDBG-DR (Community Development Block Grant – Disaster Recovery) Program Project for Jefferson County; pursuant to Chapter 262, Texas Local Government Code, the County Purchasing Act and 2 CFR Sections 200.318 – 326. This project is intended to be funded by Community Development Block Grant-Disaster Recovery through the Texas General Land Office (GLO Contract No. 20-065-121-C408); and is pending the authorization of use of grant funds.

SEE ATTACHMENTS ON PAGES 371 - 608

Motion by: Commissioner Sinegal

Second by: Commissioner Bush

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

Notice of Meeting and Agenda and Minutes
March 08, 2022

3. Consider and approve award, execute, receive and file a contract for Request for Statements of Qualification (RFQ 21-015/JW) Engineering Services for Drainage Improvements: Crane Bayou Pump Station Building and Generators with Freese and Nichols, Inc. for an amount that shall not exceed \$226,217.00; pursuant to Chapter 262, Texas Local Government Code, the County Purchasing Act and 2 CFR Sections 200.318 – 326. Funding for this project provided by Texas General Land Office (GLO Contract No. 20-065-121-C408); and with any additional cost over the budgeted GLO grant funds for this project to be funded by the Jefferson County Drainage District No. 7, per Interlocal Agreement.

SEE ATTACHMENTS ON PAGES 609 - 830

Motion by: Commissioner Sinegal

Second by: Commissioner Bush

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

4. Consider and approve cancellation of Texas Realtors Commercial Lease between Eastex Assets LLC and Jefferson County, Texas for the property located at 5550 Eastex Freeway, Beaumont, Tx, effective March 31, 2022. The facility was used as an infusion center in response to COVID-19.

SEE ATTACHMENTS ON PAGES 831 - 846

Motion by: Commissioner Sinegal

Second by: Commissioner Bush

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

5. Consider and approve a full survey, tie all improvements and encroachments for the County's property located behind the former L. L. Melton facility with Soutex Surveyors & Engineers for a cost not to exceed \$2,200.00.

SEE ATTACHMENTS ON PAGES 847 - 847

Motion by: Commissioner Sinegal

Second by: Commissioner Bush

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

COUNTY AUDITOR:

6. Consider and approve budget transfer– County Judge – replacement of 2 computers.

120-1015-413-6002	COMPUTER EQUIPMENT	\$3,402.00	
120-1015-413-5029	ATTORNEY FEES		\$3,402.00

SEE ATTACHMENTS ON PAGES 848 - 855

Motion by: Commissioner Bush

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

7. Consider and possibly approve withdrawing Ditch 107 from the CDBG-DR-infrastructure project list and request the GLO to allocate those funds to the Taylor Bayou Bridge construction costs.

Action: TABLED

8. Consider and approve amended Exhibit A for the interlocal agreement with Drainage District No.7 for the Crane Bayou generator project funded by the CDBG-DR-Infrastructure funds.

SEE ATTACHMENTS ON PAGES 856 - 856

Motion by: Commissioner Bush

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

9. Consider and approve budget amendment - Nurse Practitioner - provide a supplemental pay of \$500a month for COVID testing oversight and other health matters to the Nurse Practitioner position.

120-5076-441-1089	HEALTH SUPPLEMENT	\$3,750.00	
120-5076-441-2001	F.I.C.A. EXPENSE	\$287.00	
120-5076-441-2002	EMPLOYEES' RETIREMENT	\$760.00	
120-1016-415-1002	ASSISTANTS & CLERKS		\$4,797.00

Motion by: Commissioner Bush

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush

Opposed: Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

10. Regular County Bills – check #492761 through check #492999.

SEE ATTACHMENTS ON PAGES 857 - 865

Motion by: Commissioner Bush

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

COUNTY COMMISSIONERS:

11. Consider and possibly approve a Proclamation for the Save Our Children Reading and Love Matters Appreciation Banquet.

SEE ATTACHMENTS ON PAGES 866 - 867

Motion by: Commissioner Alfred

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

12. Receive and file Oath of Office and Statement Of Officer for Rich Courville, Commissioner for Jefferson County Emergency Services District No.3.

SEE ATTACHMENTS ON PAGES 868 - 869

Motion by: Commissioner Alfred

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

13. Consider, possibly approve and authorize the County Judge to execute a Contract for Services between The Potts Law Firm and Jefferson County regarding litigation against Symmetry Energy Solutions and its affiliate company relating to the utility billing costs at Ford Park Entertainment Complex during the February 2021 Texas winter storm.

SEE ATTACHMENTS ON PAGES 870 - 872

Motion by: Commissioner Alfred

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

14. Consider, possibly approve, and authorize the County Judge to execute agreement between Jefferson County Commissioners Court and Lamar University for SETCAST Video of Commissioners Court meetings.

SEE ATTACHMENTS ON PAGES 873 - 874

Motion by: Commissioner Alfred

Second by: Commissioner Pierce

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

ENGINEERING:

15. Consider and possibly approve a Replat of Lots 8, 9, 10, and a Portion of Lot 41 out of the Gandy Addition, Described in Vol. 7, Page 94 of the Map Records of Jefferson County, Texas into Lot 8-A and Lot 10-A. Property is located off of Gordon Road in Precinct #3. This plat is not within any ETJ and has met all of Jefferson Counties platting requirements.

SEE ATTACHMENTS ON PAGES 875 - 875

Motion by: Commissioner Sinegal

Second by: Commissioner Alfred

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

SHERIFF'S DEPARTMENT:

16. Consider and approve a donation of a K9 ballistic vest for the Sheriff's Office from Vested Interested K9's, Incorporated. Vested Interest in K9s will cover 100% of the cost. This donation is pursuant to Section 81.032 of the Texas Local Government Code.

Motion by: Commissioner Pierce

Second by: Commissioner Alfred

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

Notice of Meeting and Agenda and Minutes
March 08, 2022

17. Consider and possibly approve U.S. Department of Justice, United States Marshal Service modification no. 20 to the current inter-governmental agreement 78-01-0077. The purpose of this modification is to adjust the current per diem rate.

SEE ATTACHMENTS ON PAGES 876 - 877

Motion by: Commissioner Pierce

Second by: Commissioner Alfred

In favor: County Judge Branick, Commissioner Pierce, Commissioner Bush, Commissioner Sinegal, Commissioner Alfred

Action: APPROVED

Other Business:

Receive reports from Elected Officials and staff on matters of community interest without taking action.

*****DISCUSSION ON ANY OTHER ITEM NOT ON AGENDA WITHOUT TAKING ACTION.**

Jeff R. Branick
County Judge

JACK BROOKS REGIONAL AIRPORT
Taxiway A Rehabilitation
AIP NO. TBD

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project 22-011/JW



TEXAS REGISTERED ENGINEERING FIRM F-5713

Garver Project Number 20A12501

March 2022



JEFFERSON COUNTY PURCHASING DEPARTMENT

Deborah L. Clark, Purchasing Agent

1149 Pearl Street
1st Floor, Beaumont, TX 77701

OFFICE MAIN: (409) 835-8593
FAX: (409) 835-8456

LEGAL NOTICE

Advertisement for Invitation for Bids

March 8, 2022

Notice is hereby given that sealed bids will be accepted by the Jefferson County Purchasing Department for Invitation for Bid (IFB 22-011/JW) **Taxiway A Rehabilitation at the Jack Brooks Regional Airport**. Information for this project may be obtained from the Jefferson County Purchasing website at <https://co.jefferson.tx.us/Purchasing/> or by calling 409-835-8593. Specifications, Plans, and Bidding Documents can be obtained from the CivCast website at <https://www.civcastusa.com>. **Project ID is BPT_22-011/JW.**

Bids are to be sealed and addressed to the Purchasing Agent with the bid number and name marked on the outside of the envelope or box. Bidders shall forward an original and three (3) copies of their bid to the address shown below. Jefferson County does not accept bids submitted electronically. Late bids will be rejected as non-responsive. Bids will be publicly opened and read aloud in the Jefferson County Engineering Department Conference Room (5th Floor, Historic Courthouse) 1149 Pearl Street, Beaumont, Texas 77701, at the time and date below. Bidders are invited to attend the sealed bid opening.

BID NAME: Taxiway A Rehabilitation at the Jack Brooks Regional Airport

BID NUMBER: IFB 22-011/JW

DUE BY TIME/DATE: 11:00 AM CT, March 30, 2022

MAIL OR DELIVER TO: Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, Texas 77701

There will be a Pre-Bid Conference and Walk-Through at 2:00 PM CT on Thursday, March 17, 2022, at the Airport Administration Conference Room located at 5000 Jerry Ware Blvd. Beaumont, Texas 77705. This conference will be the Bidder's only opportunity to view secured areas of the project.

The County shall require the bidder to furnish a bid security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas. Within ten (10) days after the date of the signing of a contract, the bidder shall furnish a performance bond to the County for the full amount of the contract, if the contract exceeds one hundred thousand dollars (\$100,000). If the contract is for one hundred thousand dollars (\$100,000) or less, the County may provide that no money be paid to the contractor until completion and acceptance of the work or the fulfillment of the purchase obligation to the County.

Any questions relating to these bid requirements should be directed to Jamey West, Contract Specialist at 409-835-8793 or via email at: jwest@co.jefferson.tx.us

Jefferson County encourages Disadvantaged Business Enterprises (DBEs) and Historically Underutilized Businesses (HUBs) to participate in the bidding process. Jefferson County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment, or the provisions of services. Individuals requiring special accommodations are requested to contact our office at least seven (7) days prior to the bid due date (at 409-835-8593) to make appropriate arrangements.

Jefferson County reserves the right to accept or reject any or all proposals, to waive technicalities and to take whatever action is in the best interest of Jefferson County. All interested firms are invited to submit a bid in accordance with the terms and conditions stated in this bid.

Bidders are strongly encouraged to carefully read the entire invitation.

Deborah L. Clark, Purchasing Agent
Jefferson County, Texas

PUBLISH:

Beaumont Enterprise & Port Arthur News:
March 9, 2022 and March 16, 2022

TABLE OF CONTENTS

1. GENERAL CONDITIONS OF BIDDING AND TERMS OF CONTRACT
2. SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS
3. FEDERAL MANDATED CONTRACT PROVISIONS
4. TITLE VI SOLICITATION NOTICE
5. BIDDER INFORMATION FORM
6. STATEMENT OF BIDDER'S QUALIFICATIONS
7. CONFLICT OF INTEREST QUESTIONNAIRE
8. LOCAL GOVERNMENT OFFICER
9. GOOD FAITH EFFORT (GFE) DETERMINATION CHECKLIST
10. NOTICE OF INTENT (NOI) TO SUBCONTRACT WITH DISADVANTAGED BUSINESS ENTERPRISES (DBE)
11. DISADVANTAGED BUSINESS ENTERPRISES (DBE) SUBCONTRACTING PARTICIPATION DECLARATION FORM
12. RESIDENCE CERTIFICATION/TAX FORM
13. HOUSE BILL 89 VERIFICATION
14. SENATE BILL 252 CERTIFICATION
15. BID SURETY
16. CONTRACT
17. NOTICE OF AWARD
18. NOTICE TO PROCEED
19. PERFORMANCE AND PAYMENT BONDS
20. OFFER AND ACCEPTANCE FORM
21. BID FORM AND PROPOSAL
22. VENDOR REFERENCES FORM
23. SIGNATURE PAGE
24. CERTIFICATION REGARDING LOBBYING
25. BID AFFIDAVIT
26. ADDENDA
27. WAGE RATES
28. CHANGE ORDER FORM

29. GENERAL PROVISIONS (FAA AC 150/5370-10H)

Section 10 Definitions of Terms
 Section 20 Proposal Requirements and Conditions
 Section 30 Award and Execution of Contract
 Section 40 Scope of Work
 Section 50 Control of Work
 Section 60 Control of Materials
 Section 70 Legal Regulations and Responsibility to Public
 Section 80 Execution and Progress
 Section 90 Measurement and Payment

30. SPECIAL PROVISIONS

31. TECHNICAL SPECIFICATIONS

SS-101	Safety Plan Compliance Document (SPCD)
SS-110	Standard Specifications
SS-120	Construction Safety and Security
SS-130	Trench and Excavation Safety Systems
SS-300	Basic Electrical Requirements
SS-301	Electrical Demolition Work
SS-305	Directional Boring
SS-310	Airport Lighting Systems
C-100	Contractor Quality Control Program (CQCP)
C-102	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control
C-105	Mobilization
P-101	Preparation/Removal of Existing Pavements
P-152	Excavation, Subgrade, and Embankment
P-155	Lime-Treated Subgrade
P-208	Aggregate Base Course
P-501	Cement Concrete Pavement
P-605	Joint Sealants for Pavements
P-610	Concrete for Miscellaneous Structures
P-620	Runway and Taxiway Marking
D-701	Pipe for Storm Drains and Culverts
D-751	Manholes, Catch Basins, Inlets and Inspection Holes
D-752	Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures
T-901	Seeding
T-904	Sodding
T-905	Topsoil
L-108	Underground Power Cable for Airports
L-110	Airport Underground Electrical Duct Banks and Conduits
L-115	Electrical Manholes and Junction Structures
L-125	Installation of Airport Lighting Systems

SECTION 1: GENERAL CONDITIONS OF BIDDING AND TERMS OF CONTRACT

By execution of this document, Bidder accepts all general and special conditions of the contract as outlined below and, in the specifications, and plans.

1. BIDDING

1.1 BIDS.

All bids must be submitted on the bid form furnished in this package.

1.2 AUTHORIZED SIGNATURES.

The bid must be executed personally by the Vendor, duly authorized partner of the partnership, or duly authorized officer of the corporation. If executed by an agent, a power of attorney or other evidence of authority to act on behalf of the Vendor shall accompany the bid to become a valid bid.

1.3 INTERPRETATION OF BID AN/OR CONTRACT DOCUMENTS

All inquiries shall be made within a reasonable time prior to the date and time fixed for the bid opening, in order that a written response in the form of an addendum, if required, can be processed before the bids are opened. Inquiries received that are not made in a timely fashion may or may not be considered.

1.4 LATE BIDS.

Bids must be in the office of the Jefferson County Purchasing Agent before or at the specified time and date bids are due. Bids received after the submission deadline shall be rejected as non-responsive and returned unopened.

1.5 WITHDRAWAL OF BID PRIOR TO OPENING.

A bid may be withdrawn before the opening date by submitting a written request to the Purchasing Agent. If time allows, the Bidder may submit a new bid. Bidder assumes full responsibility for submitting a new bid before or at the specified time and date bids are due. Jefferson County reserves the right to withdraw a request for bids before the opening date.

1.6 WITHDRAWAL OF BID AFTER OPENING.

Bidder agrees that its offer may not be withdrawn or cancelled by the Vendor for a period of ninety (90) days following the date and time designated for the receipt of bids unless otherwise stated in the bid and/or specifications.

1.7 BID AMOUNTS.

Bids shall show net prices, extensions where applicable and net total. In case of conflict between unit price and extension, the unit price will govern. Any ambiguity in the bid as a result of omission, error, unintelligible or illegible wording shall be interpreted in the favor of Jefferson County.

1.8 EXCEPTIONS AND/OR SUBSTITUTIONS.

All bids meeting the intent of the specifications and plans will be considered for award. Vendors taking exception to the specifications and plans, or offering substitutions, shall state these exceptions in the section provided. If bid is made on an article other than the one specified, which a Bidder considers comparable, the name and grade of said article must be specified in the bid and sufficient specifications and descriptive data must accompany same to permit thorough evaluation. The absence of stated exceptions and/or substitutions shall indicate that the Vendor has not taken any exceptions to the specifications and shall be responsible to perform in strict accordance with the specifications. As a matter of practice, Jefferson County rejects exception(s) and /or substitutions as non-responsive but reserves the right to accept any and/or all of the exception(s) and/or substitution(s) deemed to be in the best interest of Jefferson County.

1.9 ALTERNATES

The Invitation for Bid and/or specifications may expressly allow Bidder to submit an alternate bid. Presence of such an offer shall not be considered an indication of non-responsiveness.

1.10 DESCRIPTIONS

Unless otherwise specified, any reference to make, manufacturer and/or model used in the bid specifications is merely descriptive and not restrictive, and is used only to indicate type, style, or quality of material desired.

1.11 BID ALTERATIONS.

Bids cannot be altered or amended after submission deadline. Any interlineations, alterations, or erasures made before opening time must be initialed by the signer of the bid, guaranteeing authenticity.

1.12 TAX EXEMPT STATUS.

Jefferson County is exempt from federal excise tax and state sales tax. Unless the bid form or specifications specifically indicate otherwise, the bid price must be net, exclusive of above-mentioned taxes and will be so construed. Therefore, the bid price shall not include taxes.

1.13 QUANTITIES.

Quantities indicated are estimated quantities only and are not a commitment to buy. Approximate usage does not constitute an order, but only implies the probable quantity that will be used. Commodities will be ordered on an as-needed basis. Bidder is responsible for accurate final counts.

1.14 BID AWARD.

Award of contract shall be made to the most responsible, responsive Bidder, whose offer is determined to be the best value, taking into consideration the relative importance of price. Jefferson County reserves the right to be the sole judge as to whether items bid will serve the purpose intended.

Jefferson County reserves the right to accept or reject in part or in whole any bid submitted, and to waive any technicalities or informalities for the best interest of the County. Jefferson County reserves the right to award based upon individual line items, sections or total bid.

1.15 SILENCE OF SPECIFICATIONS FOR COMPLETE UNITS.

All materials, equipment and/or parts that will become a portion of the completed work, including items not specifically stated herein but, necessary to render the service(s) complete and operational per the specifications, are to be included in the bid price. Vendor may be required to furnish evidence that the service, as bid, will meet or exceed these requirements.

1.16 ADDENDA.

Any interpretations, corrections or changes to the specifications and plans will be made by addenda no later than forty-eight (48) hours prior to the bid opening. Addenda will be posted on the Purchasing web site. Vendors are responsible for monitoring the web site in order to remain informed on addenda. Vendors shall acknowledge receipt of all addenda with submission of bid.

1.17 GENERAL BID BOND/SURETY REQUIREMENTS.

Failure to furnish bid bond/surety, if requested, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.18 GENERAL INSURANCE REQUIREMENTS

Failure to furnish Affidavit of Insurance, if required in these specifications, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.19 RESPONSIVENESS.

A responsive bid shall substantially conform to the requirements of this Invitation to Bid and/or specifications contained herein. Bidders who substitute any other terms, conditions, specifications and/or requirements or who qualify their bids in such a manner as to nullify or limit their liability to the contracting entity shall have their bids deemed non-responsive. Also, bids containing any clause that would limit contracting authority shall be considered

non-responsive. Examples of non-responsive bids include but shall not be limited to: a) bids that fail to conform to required delivery schedules as set forth in the bid request; b) bids with prices qualified in such a manner that the bid price cannot be determined, such as with vague wording that may include “price in effect at the time of delivery,” and c) bids made contingent upon award of other bids currently under consideration.

1.20 RESPONSIBLE STANDING OF BIDDER.

To be considered for award, Bidder must at least: have the ability to obtain adequate financial resources, be able to comply with required or proposed delivery/completion schedule, have a satisfactory record of performance; have a satisfactory record of integrity and ethics, and be otherwise qualified and eligible to receive award.

1.21 CONFIDENTIAL/PROPRIETARY INFORMATION.

If any material in the bid submission is considered by Bidder to be confidential or proprietary information (including manufacturing and/or design processes exclusive to the Bidder), Bidder **must** clearly mark the applicable pages of Bidder’s bid submission to indicate each claim of confidentiality. Additionally, Bidder must include a statement on company letterhead identifying all Bid Submission section(s) and page(s) that have been marked as confidential. Jefferson County will protect from public disclosure such portions of a bid, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire bid submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire bid submission subject to release under the Texas Public Information Act.

By submitting a bid, Bidder agrees to reproduction by Jefferson County, without cost or liability, of any copyrighted portions of Bidder’s bid submission or other information submitted by Bidder.

1.22 PUBLIC BID OPENING.

Bidders are invited to be present at the opening of bids. After the official opening of bids, a period of not less than one week is necessary to evaluate bids. The amount of time necessary for bid evaluation may vary and is determined solely by the County. Following the bid evaluation, all bids submitted are available for public review.

2. PERFORMANCE

2.1 DESIGN, STRENGTH, AND QUALITY.

Design, strength, and quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practices. The apparent silence of specifications and/or plans as to any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications and/or plans shall be made on the basis of this statement.

2.2 AGE AND MANUFACTURE.

All tangible goods being bid must be new and unused, unless otherwise specified, in first-class condition, of current manufacture, and furnished ready to use. All items not specifically mentioned that are required for a complete unit shall be furnished.

2.3 DELIVERY LOCATION

All deliveries will be made to the address(es) specified on the purchase order during normal working hours of 8:00 a.m. to 4:00 p.m., Monday through Friday, unless otherwise authorized by the Purchasing Agent or designee.

2.4 DELIVERY SCHEDULE.

Delivery time may be an important consideration in the evaluation of best value. The maximum number of days necessary for delivery ARO shall be stated in the space, if provided, on the bid form.

2.5 DELIVERY CHARGES.

All delivery and freight charges, F.O.B. destination shown on Jefferson County purchase order, as necessary to perform contract are to be included in the bid price.

2.6 INSTALLATION CHARGES.

All charges for assembly, installation and set-up shall be included in the bid price. Unless otherwise stated, assembly, installation and set-up will be required.

2.7 OPERATING INSTRUCTIONS AND TRAINING.

Clear and concise operating instructions and descriptive literature will be provided in English, if requested. On-site detailed training in the safe and efficient use and general maintenance of item(s) purchased shall be provided as needed at the request of Jefferson County. Instructions and training shall be at no additional cost to the County.

2.8 STORAGE.

Bidder agrees to provide storage of custom ordered materials, if requested, for up to thirty (30) calendar days.

2.9 COMPLIANCE WITH FEDERAL, STATE, COUNTY, AND LOCAL LAWS.

Bids must comply with all federal, state, county and local laws, including, but not limited to, all applicable standard safety, emission, and noise control requirements. Any vehicles or equipment shall contain all standard safety, emission, and noise control requirements required for the types and sizes of equipment at the time of their manufacture. The contractor agrees, during the performance of work or service, to comply with all applicable codes and ordinances of Jefferson County or the State of Texas as they may apply, as these laws may now read, or as they may hereafter be changed or amended.

2.10 OSHA.

The Bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful Bidder will further certify that all items furnished under this project will conform and comply with federal and State of Texas OSHA standards. The successful Bidder will agree to indemnify and hold harmless Jefferson County for any and all damages that may be assessed against the County.

2.11 PATENTS AND COPYRIGHTS.

The successful Vendor agrees to protect the County from claims involving infringements of patents and/or copyrights.

2.12 SAMPLES, DEMONSTRATIONS, AND TESTING.

At Jefferson County's request and direction, Bidder shall provide product samples and/or testing of items bid to ensure compliance with specifications. Samples, demonstrations and/or testing may be requested at any point prior to or following bid award. Samples, demonstrations and/or testing may be requested upon delivery and/or any point during the term of resulting contract. All samples (including return thereof), demonstrations, and/or testing shall be at the expense of the Bidder/Vendor.

2.13 ACCEPTABILITY.

All articles enumerated in the bid shall be subject to inspection by an officer designated for that purpose by Jefferson County. If found inferior to the quality called for, or not equal in value to the specifications, deficient in workmanship or otherwise, this fact shall be certified to the Purchasing Agent, who shall have the right to reject the whole or any part of the same. Items and/or work determined to be contrary to specifications must be replaced at the vendor's expense. Inferior items not retrieved by the vendor within thirty (30) calendar days, or an otherwise agreed upon time, shall become the property of the County. If disposal of such items warrants an expense, an amount equal to the disposal expense will be deducted from amounts payable to the vendor.

2.14 MAINTENANCE.

Maintenance required for equipment bid should be available in Jefferson County by a manufacturer authorized maintenance facility. Cost for this service shall be shown on the bid sheet as requested or on a separate sheet, as required. If Jefferson County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.

2.15 MATERIAL SAFETY DATA SHEETS.

Under the "Hazardous Communications Act," common known as the "Texas Right to Know Act," a Bidder must provide the user department, with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the Bidder to furnish this documentation, will be cause to reject any bid applying thereto.

2.16 EVALUATION.

Evaluation shall be used as a determinant as to which services are the most efficient and/or most economical for the County. It shall be based on all factors having a bearing on price and performance of the items in the user environment. All bids are subject to tabulation by the Jefferson County Purchasing Department and recommendation to Jefferson County Commissioners' Court. Compliance with all bid requirements and needs of the using department are considered in evaluating bids. Pricing is not the only criteria for making a recommendation. The Jefferson County Purchasing Department reserves to right to contact any Bidder, at any time, to clarify, verify or requirement information with regard to this bid.

3. PURCHASE ORDERS AND PAYMENT

3.1 PURCHASE ORDERS.

A purchase order(s) shall be generated by the Jefferson County Purchasing Agent to the successful vendor. The purchase order number must appear on all itemized invoices and packing slips. The County will not be held responsible for any work orders placed and/or performed without a valid current purchase order number. Payment will be made for all services rendered and accepted by the contract administrator for which a valid invoice has been received.

3.2 INVOICES.

All invoices shall reference the Purchase Order number. Invoices shall reference the bid item number or a detailed description for each item invoiced. If an item purchased and itemized on the invoice does not correspond to an item in any of the categories awarded to the vendor, invoice shall reference the item as "N/C" to indicate that it is a non-contract item. This requirement is to assist the County in verifying contract pricing on all invoices. Payment will be made under terms of net thirty (30) days unless otherwise agreed upon by seller and the purchasing department.

3.3 PROMPT PAYMENT.

In accordance with the State of Texas Prompt Payment Act, Article 601f V.T.C.S., payment will be made after receive and acceptance by the County of the merchandise ordered and of a valid invoice. Successful Bidder(s) is required to pay subcontractors within ten (10) days after the successful Bidder receives payment from the County.

3.4 FUNDING.

Jefferson County is operated and funded on an October 1 to September 30 basis; accordingly, the County reserves the right to terminate, without liability to the County, any contract for which funding is not available.

4. CONTRACT

4.1 CONTRACT DEFINITION.

The General Conditions of Bidding and Terms of Contract, Specifications, Plans, Bidding Forms, Addenda, and any other documents made a part of this bid shall constitute the complete bid. This bid, when duly accepted by Jefferson County, shall constitute a contract equally binding between the successful Bidder and Jefferson County.

4.2 CHANGE ORDER.

No different or additional terms will become part of this contract with the exception of a change order. No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing and at the discretion and approval of Jefferson County. No change order will be binding unless signed by an authorized representative of the County and the vendor.

4.3 PRICE RE-DETERMINATION

A price re-determination may be requested at the time of annual renewal. All requests for price re-determination shall be in written form. Cause for such request, i.e., manufacturer's direct cost, postage rates, Railroad Commission rates, Federal/State minimum wage law, Federal/State unemployment taxes, F.I.C.A, Insurance Coverage Rates, etc., shall be substantiated in writing by the source of the cost increase. The Bidder's past experience of honoring contracts at the bid price will be an important consideration in the evaluation of the lowest and best bid. Jefferson County reserves the right to accept or reject any/all requests for price re-determination as it deems to be in the best interest of the County.

4.4 TERMINATION.

Jefferson County reserves the right to terminate the contract for default if the Bidder breached any of the terms therein, including warranties of Bidder or if the Bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which Jefferson County may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or service within the proper amount of time, and/or to properly perform any and all services required to Jefferson County's satisfaction and/or to meet all other obligations and requirements. Contracts may be terminated without cause upon thirty (30) days' written notice to either party unless otherwise specified. Jefferson County reserves the right to award canceled contract to the next lowest Bidder. Bidder, in submitting this bid, agrees that Jefferson County shall not be liable to prosecution for damages in the event that the County declares the Bidder in default.

4.5 CONFLICT OF INTEREST.

Employees of the County are not permitted to maintain financial interest in, or receive payment, directly or indirectly, borrow from, lend to, invest in, or engage in any substantial financial transaction with any individual, organization, supplier, or subcontractor who does business with the County without disclosure. When conflict of interest is discovered, it shall be grounds for termination of contract.

4.6 INJURIES OR DAMAGES RESULTING FROM NEGLIGENCE.

Successful vendor shall defend, indemnify and save harmless Jefferson County and all its officers, agents and employees from all suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the successful vendor, or of any agent, employee, subcontractor or supplier in the execution of, or performance under, any contract which may result from bid award. Successful vendor shall pay any judgment with cost which may be obtained against Jefferson County growing out of such injury or damages.

4.7 INTEREST BY PUBLIC OFFICIALS.

No public official shall have interest in this contract, in accordance with Texas Local Government Code.

4.8 WARRANTY

The successful vendor shall warrant that all materials utilized in the performance of this contract shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title.

4.9 UNIFORM COMMERCIAL CODE.

The successful vendor and Jefferson County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

4.10 VENUE.

This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in the County of Jefferson, Texas.

4.11 SALE, ASSIGNMENT, OR TRANSFER OF CONTRACT.

The successful vendor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written consent of Jefferson County.

4.12 SILENCE OF SPECIFICATIONS.

The apparent silence of these specifications as to any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

5. REJECTION OR WITHDRAWAL.

Submission of additional terms, conditions or agreements with the bid document are grounds for deeming a bid non-responsive and may result in bid rejection. Jefferson County reserves the right to reject any and all bids and to waive my informalities and minor irregularities or defects in bids. Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the time set for receipt of bids. Bids are an irrevocable offer and may not be withdrawn within ~~120~~ 90 days after opening date.

6. EMERGENCY/DECLARED DISASTER REQUIREMENTS.

In the event of an emergency or if Jefferson County is declared a disaster area, by the County, State, or Federal Government, this Acceptance of Offer may be subjected to unusual usage. Contractor shall service the county during such an emergency or declared disaster under the same terms and conditions that apply during non-emergency/disaster conditions. The pricing as specified in this Acceptance of Offer shall apply to serving the County's needs regardless of the circumstances. If Contractor is unable to supply the services under the terms of the Acceptance of Offer, then Contractor shall provide proof of such disruption and a copy of the invoice from Contractor's supplier(s).

Additional profit margin as a result of supplying services during an emergency or declared disaster shall not be permitted. In the event that additional equipment, supplies, and materials are required during the declared disaster, additional shipping, handling and drayage fees may apply.

7. AWARD.

The bid will be awarded to the responsible, responsive bidder(s) whose bid, conforming to the solicitation, will be most advantageous to Jefferson County – price and other factors considered. Unless otherwise specified in this IFB, Jefferson County reserves the right to accept a bid in whole or in part, and to award by item or by group, whichever is deemed to be in the best interest of Jefferson County. Any bidder who is in default to Jefferson County at the time of submittal of the bid shall have that bid rejected.

Jefferson County reserves the right to clarify any contractual terms with the concurrence of the Contractor; however, any substantial non-conformity in the offer, as determined by Jefferson County, shall be deemed non-responsive and the offer rejected. In evaluating bids, Jefferson County shall consider the qualifications of the bidders, and, where applicable, operating costs, delivery time, maintenance requirements, performance data, and guarantees of materials and equipment. In addition, Jefferson County may conduct such investigation as it deems necessary to assist in the evaluation of a bid and to establish the responsibility, qualifications, and financial ability of the bidders to fulfill the contract.

Jefferson County reserves the right to award this contract on the basis of **lowest and best bid** in accordance with the laws of the State of Texas, to waive any formality or irregularity, to make awards to more than one offeror, and/or to reject any or all bids. In the event the lowest dollar offeror meeting specifications is not awarded a contract, Offeror may appear before the Commissioners' Court and present evidence concerning Offeror responsibility after officially notifying the Office of the Purchasing Agent of Offeror's intent to appear.

8. CONTRACT.

A response to an IFB is an offer to contract with Jefferson County based upon the terms, conditions, and specifications contained in the IFB. Bids do not become contracts unless and until they are executed by Jefferson County, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the contract are contained in the IFB, unless any of the terms and conditions is modified by an IFB Amendment, a Contract Amendment, or by

mutually agreed terms and conditions in the contract documents.

9. WAIVER OF SUBROGATION.

Bidder and bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against Jefferson County as an indirect party to any suit arising out of personal or property damages resulting from bidder's performance under this agreement.

10. FISCAL FUNDING.

A multi-year contract (if requested by the specifications) continuing as a result of an extension option must include fiscal funding out. If, for any reason, funds are not appropriated to continue the contract, said contract shall become null and void.

11. BID RESULTS

Bid results are not provided in response to telephone inquiries. A preliminary tabulation of bids received will be posted on the Purchasing web page at <https://www.co.jefferson.tx.us/Purchasing/> as soon as possible following bid opening. A final tabulation will be posted following bid award, and will also be available for review in the Purchasing Department.

12. CHANGES AND ADDENDA TO BID DOCUMENTS

Each change or addendum issued in relation to this IFB document will be on file in the Office of the Purchasing Agent, and will be posted on the Purchasing web site as soon as possible. It shall be the bidder's responsibility to make inquiry as to change or addenda issued, and to monitor the web site. All such changes or addenda shall become part of the contract and all bidders shall be bound by such addenda. Information on all changes or addenda issued will be available at the Office of the County Purchasing Agent.

13. SPECIFICATIONS

Unless otherwise stated by the bidder, the bid will be considered as being in accordance with Jefferson County's applicable standard specifications, and any special specifications outlined in the bid document. References to a particular trade name, manufacturer's catalogue, or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of Jefferson County, and should not be construed as excluding bids on other types of materials, equipment, and supplies. However, the bidder, if awarded a contract, will be required to furnish the particular item referred to in the specifications or description unless departure or substitution is clearly noted and described in the bid.

Jefferson County reserves the right to determine if equipment/ product being bid is an acceptable alternate. All goods shall be new unless otherwise so stated in the bid. Any unsolicited alternate bid, or any changes, insertions, or omissions to the terms and conditions, specifications, or any other requirements of the bid, may be considered non-responsive.

14. DELIVERY.

Bids shall include all charges for delivery, packing, crating, containers, etc. Unless otherwise stated by the bidder (in writing on the included Bid Form), prices bid will be considered as being based on F.O.B. destination/delivered freight included.

15. CURRENCY.

Prices calculated by the bidder shall be stated in U.S. dollars.

16. PRICING.

Prices shall be stated in units of quantity specified in the bid documents. In case of discrepancy in computing the amount of the bid, the unit price shall govern.

17. NOTICE TO PROCEED/PURCHASE ORDER

The successful bidder may not commence work under this contract until authorized to do so by the Purchasing Agent.

18. CERTIFICATION

By signing the offer section of the Offer and Acceptance page, Bidder certifies:

- The submission of the offer did not involve collusion or other anti-competitive practices.
- The Bidder 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 any public servant in connection with the submitted offer.
- The Bidder hereby certifies that the individual signing the bid is an authorized agent for the Bidder and has the authority to bind the Bidder to the contract.

19. DEFINITIONS

“County” – Jefferson County, Texas.

Contractor” – The Bidder whose proposal is accepted by Jefferson County.

20. MINORITY-WOMEN BUSINESS ENTERPRISE PARTICIPATION

It is the desire of Jefferson County to increase the participation of Minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the County does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms.

SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS

The following requirements and instructions **supersede** General Requirements where applicable.

1. BID REQUIREMENT.

Each Bidder shall ensure that required parts of the bid are completed with accuracy and submitted as per the requirements within this specifications packet, including any addenda.

Bids must be submitted in complete original form by mail or messenger to the following address:

**Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, TX 77701**

Bidder shall submit bid in a tightly sealed opaque envelope or box, plainly marked "SEALED BID." The outside of the envelope or box shall also include the Bid Number, Bid Name, Bid Due Date, and the Bidder's Name and Address; and shall be addressed to the Purchasing Agent.

Bidder is responsible for submitting: One (1) original and three (3) bid copies; with all copies to include a completed copy of this specifications packet, in its entirety.

Additionally, Bidder shall monitor the Jefferson County Purchasing Department Website for any addenda, additional instructions, or bid updates. <https://www.co.jefferson.tx.us/Purchasing/>

Failure to return all required documentation could result in a response being declared as non-responsive.

Jefferson County shall not be responsible for any effort or cost expended in the preparation of a response to this IFB.

Bids will be accepted at the above address until the time and date specified herein, and immediately after will be publicly opened and read aloud.

Late bids will not be accepted and will be returned unopened to the bidder.

All bids submitted in response to this invitation shall become the property of Jefferson County and will be a matter of public record available for review.

All protests should be coordinated through the Purchasing Office prior to award recommendation to Commissioners' Court.

2. VENDOR REGISTRATION: SAM (System for Award Management).

Vendors doing business with Jefferson County are **required** to be registered with The System for Award Management (SAM), with an "active" status. The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site. Entities may register at no cost directly from the SAM website at: <https://www.sam.gov>

In instances where a vendor has either an "Inactive" SAM Registration or is not currently registered with the System for Award Management, the Purchasing Department may *initially* accept proof (printout from the SAM website) that the vendor has begun the registration process in order for the IFB/RFP submission to be considered as "responsive" to the specifications for the project.

However, the SAM Registration must be completed (showing "active" status, with no exclusions) prior to the award and/or execution of an agreement or contract for the project.

3. FORM 1295 (Texas Ethics Commission).

FORM 1295 SUBMISSION REQUIREMENT/INSTRUCTIONS FOR BIDDERS:

ALL NON-EXEMPT BIDDERS ARE REQUIRED TO SUBMIT A COMPLETED FORM 1295 WITH BID SUBMISSION.

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below.

Vendors must enter the required information on Form 1295, and print a copy of the completed form.

The form will include a certification of filing that will contain a unique certification number.

2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Purchasing Department WITH BID SUBMISSION.

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

SAMPLE: A sample of a completed FORM 1295 is included on page 14.

FORM 1295 Implementation Background:

In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County will be required to complete a Certificate of Interested Parties (FORM 1295), **unless contract is considered exempt as described below.**

In 2017, the Texas legislature amended the law to require Form 1295 to include an “unsworn declaration” which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an “unsworn declaration.”

FORM 1295 EXEMPTIONS:

What type of contracts are exempt from the Form 1295 filing requirement under the amended law?

The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement.

A completed Form 1295 is not required for:

- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and o any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

SAMPLE 1: FORM 1295

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																																											
1 Name of business entity filing form, and the city, state and country of the business entity's place of business. ADD THE ABOVE-REQUESTED INFORMATION HERE		Must file online at www.ethics.state.tx.us/File																																											
2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed. JEFFERSON COUNTY, TEXAS																																													
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. ADD IFB/RFQ/RFP/AGREEMENT/CONTRACT NUMBER OR DESCRIPTION HERE																																													
4 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 35%;">Name of Interested Party</th> <th rowspan="2" style="width: 25%;">City, State, Country (place of business)</th> <th colspan="2" style="width: 40%;">Nature of Interest (check applicable)</th> </tr> <tr> <th style="width: 15%;">Controlling</th> <th style="width: 25%;">Intermediary</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="padding: 2px;">ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">WORK FOR THE BUSINESS (AS LISTED ON</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">ITEM NO. 1 OF THIS FORM) THAT WILL</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">PROFIT FROM THE BID/CONTRACT/PO.</td> <td></td> <td></td> </tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> </tbody> </table>		Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)		Controlling	Intermediary	ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT				WORK FOR THE BUSINESS (AS LISTED ON				ITEM NO. 1 OF THIS FORM) THAT WILL				PROFIT FROM THE BID/CONTRACT/PO.																									
Name of Interested Party	City, State, Country (place of business)			Nature of Interest (check applicable)																																									
		Controlling	Intermediary																																										
ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT																																													
WORK FOR THE BUSINESS (AS LISTED ON																																													
ITEM NO. 1 OF THIS FORM) THAT WILL																																													
PROFIT FROM THE BID/CONTRACT/PO.																																													
5 Check only if there is NO Interested Party. ☐		ONLY CHECK IF NO CONTROLLING OR INTERMEDIARY PARTY																																											
6 UNSWORN DECLARATION MUST COMPLETE THIS SECTION IN ITS ENTIRETY.																																													
My name is _____, and my date of birth is _____.																																													
My address _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)																																													
I declare under penalty of perjury that the foregoing is true and correct.																																													
Executed in _____ County, State of _____, on the _____ day of _____, 20_____. (month) (year)																																													
_____ Signature of authorized agent of contracting business entity (Declarant)																																													
ADD ADDITIONAL PAGES AS NECESSARY																																													

BIDDER: INSERT COMPLETED FORM 1295 BEHIND THIS PAGE.

SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS (CONTINUED)

4. MULTIPLE VENDOR AWARD

Jefferson County reserves the right to award this contract to more than one vendor at the County's discretion.

5. DELIVERY

If delivery is required, all items must be packaged so as to be protected from damage during shipping and handling. Any item(s) damaged in shipping must be replaced in kind, or repaired, by the contractor, at the discretion of, and at no additional charge to, Jefferson County.

6. PAYMENT

Jefferson County will pay original invoices that clearly itemize the goods and/or services provided as to quantity, part number, description, price, applicable discount (if any), labor charges showing time differential, if applicable and if previously agreed to, and delivery, installation, and set-up costs, if applicable and if previously agreed to. Only charges as stated on the Bid Form(s) submitted as a part of the bid will be considered.

Invoices must indicate Jefferson County as applicable, the address to which the product(s) and/or service(s) were delivered, and the applicable purchase order number. Invoices will be matched to delivery tickets prior to payment; therefore, all delivery tickets should have an accurate description of the product(s) and/or service(s).

Invoices shall be submitted to:

Jefferson County Auditing Department
Attention: Accounts Payable
1149 Pearl Street, 7th floor
Beaumont, TX 77701.

7. USAGE REPORTS

Jefferson County reserves the right to request, and receive at no additional cost, up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this IFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Jefferson County department, description of each item purchased, including manufacturer, quantity of each item purchased, per unit and extended price of each item purchased, and total amount and price of all items purchased.

8. INSURANCE

The contractor (including any and all subcontractors as defined in Section 9.1.3 below) shall, at all times during the term of this contract, maintain insurance coverages with not less than the type and requirements shown below. Such insurance is to be provided at the sole cost of the contractor. These requirements do not establish limits of the contractor's liability.

All policies of insurance shall waive all rights of subrogation against the County, its officers, employees and agents; a copy of the policy wording or endorsement is required.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County as additional insured and will provide the actual policy wording or endorsement showing as such.

All insurance must be written by an insurer licensed to conduct business in the State of Texas.

MINIMUM INSURANCE REQUIREMENTS:

Public Liability, including Products & Completed Operations	\$1,000,000
Excess Liability	\$1,000,000

CONTINUED ON NEXT PAGE

PROPERTY INSURANCE (policy below that is applicable to this project):

Improvements & Betterments Policy: Improvements/Remodeling (for Lease Tenants)

Builder's Risk Policy: Structural Coverage for Construction Projects

Installation Floater Policy: Improvements/Alterations to Existing Structure

Workers' Compensation

Statutory Coverage (See Section 9 Below)

9. WORKERS' COMPENSATION INSURANCE**9.1 Definitions:**

9.1.1 Certificate of coverage ("Certificate") – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement, DWC-81, DWC-82, DWC-83, or DWC-84 showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

9.1.2 Duration of the project – Includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

9.1.3 Persons providing services on the project ("subcontractor") in article 406.096 – Includes all persons or entities performing all or part of the services under the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractor, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" includes, without limitation, providing, hauling or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

9.2 The Contractor shall provide coverage, based on proper reporting of classification code and payroll amounts and filing any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

9.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – refer to Section 8 above.

9.4 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

9.5 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

9.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

9.5.2 No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate ends during the duration of the project.

9.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.

9.7 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

9.8 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

- 9.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:
- 9.9.1 Provide coverage, based on reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all its employees providing services on the project, for the duration of the project.
 - 9.9.2 Provide to the Contractor, prior to that person beginning work on the project a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.
 - 9.9.3 Provide the Contractor, prior to the end of coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
 - 9.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:
 - 9.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and
 - 9.9.4.2 the coverage period, if the coverage period shown on the current certificate of a new certificate of coverage showing extension of coverage, prior to the end of coverage ends during the duration of the project.
 - 9.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.
 - 9.9.6 Notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - 9.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs 9.1. – 9.7., with the certificates of coverage to be provided to the person for whom they are providing services.
- 9.10 By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the contractor who will provide services of the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- 9.11 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

BIDDER: INSERT COPY OF CERTIFICATE OF INSURANCE (COI) BEHIND THIS PAGE.

Note: For bid purposes, a general COI will suffice. However, a COI that includes the notation that "Jefferson County as an additional insured" will be required from Awarded Bidder(s) prior to the issuance of a Purchase Order.

FEDERAL MANDATED CONTRACT PROVISIONS

Federal Mandated Contract Provisions

Some or all of the provisions in this section will be incorporated into a professional service agreement as a result of this solicitation.

Breach of Contract Terms / Remedies

Source: 2 CFR § 200 Appendix II (A)

Applicability: This provision requires Jefferson County, as the Airport Sponsor, to incorporate administrative, contractual, or legal remedies if contractor/consultant violate or breach contract terms. The sponsor must also include appropriate penalties and sanctions. Language acceptable to meet the intent of this requirement will be included in contractual documents.

This requirement applies to all FEMA grant and cooperative agreement programs

Contract Types: This provision is required for all contracts that exceed the simplified acquisition threshold as stated in 2 CFR § 200, Appendix II (A). This threshold is occasionally adjusted for inflation and is now equal to \$150,000.

Termination of Contract (for Cause and Convenience)

Source: 2 CFR § 200 Appendix II (B)

FAA Advisory Circular 150/5370-10, Section 80-09

Applicability: This provision requires Jefferson County, as the Airport Sponsor, to incorporate in all contracts over \$10,000, a provision that addresses termination for cause and termination for convenience, by the sponsor. The contractual provision must address the manner by which the sponsor's contract will be affected and the basis for settlement. Language acceptable to meet the intent of this requirement will be included in contractual documents.

This requirement applies to all FEMA grant and cooperative agreement programs.

Contract Types: This provision is required for all contracts that exceed \$10,000.

Equal Employment Opportunity

Source: 2 CFR § 200 Appendix II (C) 41 CFR § 60-1.4

Executive Order 11246 41 CFR § 60-4.3

Applicability: The purpose of this provision is to provide equal opportunity for all persons, without regard to race, color, religion, sex, or national origin who are employed or seeking employment with contractors performing under a federally assisted construction contract. There are two provisions, a construction clause and a specification clause.

The equal opportunity contract clause must be included in any contract or subcontract when the amount exceeds \$10,000. Once the equal opportunity clause is determined to be applicable, the contract or subcontract must include the clause for the remainder of the year, regardless of the amount of the contract.

This requirement applies to all FEMA grant and cooperative agreement programs.

Contract Types: This provision is required for all contracts that exceed \$10,000.

Use of Provision: 41 CFR 60-1.4 provides the mandatory **contract** language. 41 CFR 60-4.3 provides the mandatory **specification** language. The sponsor will incorporate these clauses without modification.

Note: Any contracts resulting from this RFQ will have the requisite language as set forth in 2 CFR 200 App II, 41 CFR 60-1.4, 41 CFR 60-4.3, and Executive Order 11246.

Davis-Bacon Requirements

Source: 2 CFR § 200 Appendix II (D)

29 CFR Part 5

Applicability: The Davis-Bacon Act ensures that laborers and mechanics employed under the contract receive pay no less than the locally prevailing wages and fringe benefits as determined by the Department of Labor.

For Professional Services: The emergence of different project delivery methods has created situations where Professional Service Agreements (PSAs) includes tasks that meet the definition of construction, alteration, or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration, or repair and it exceeds \$2,000, the PSA must incorporate this clause.

Use of Provision: 29 CFR 5 establishes the specific language the sponsor must use without modification. A/E firms that employ laborers and mechanics on a task that meets the definition of construction, alteration, or repair are acting as a contractor. The sponsor may not substitute the term “Contractor” for “Consultant” in such instances.

Copeland Anti-Kickback

Source: 2 CFR § 200 Appendix II (D)

29 CFR Part 3 & Part 5

Applicability: The Copeland Act (18 USC 874 and 40 USC 3145) makes it unlawful to induce by force, intimidation, threat of dismissal from employment, or by any other manner, any person employed in the construction or repair of public buildings or public works, financed in whole or in part by the United States, to give up any part of the compensation to which that person is entitled under a contract of employment. The Copeland Act also requires each contractor and subcontractor to furnish weekly a statement of compliance with respect to the wages paid each employee during the preceding week.

It DOES NOT apply to the FEMA Public Assistance Program.

For Professional Services: The emergence of different project delivery methods has created situations where Professional Service Agreements (PSAs) includes tasks that meet the definition of construction, alteration, or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration, or repair and it exceeds \$2,000, the PSA must incorporate the Copeland Anti-kickback provision.

Use of Provision: 29 CFR 5 establishes the specific language the sponsor must use without modification. A/E firms that employ laborers and mechanics on a task that meets the definition of construction, alteration, or repair are acting as a contractor. The sponsor may not substitute the term “Contractor” for “Consultant” in such instances.

Contract Workhours and Safety Standards Act Requirements

Source: 2 CFR § 200 Appendix II (E)

29 CFR Part 5

40 U.S.C. § 3701-3708

Applicability: Contract Workhours and Safety Standards Act Requirements (CWHSSA) requires contractors and subcontractors on covered contracts to pay laborers and mechanics employed in the performance of the contracts one and one-half times their basic rate of pay for all hours worked over 40 in a workweek and prohibits unsanitary, hazardous, or dangerous working conditions on federally assisted projects. The Wage and Hour division (WHD) within the U.S. Department of Labor (DOL) enforces the compensation requirements of this Act, while DOL’s Occupational Safety and Health Administration (OSHA) enforces the safety and health requirements.

Jefferson County urges all contractors, regardless of funding sources for projects, to follow all applicable Federal and State labor laws.

For Professional Services: This provision applies to professional service agreements that exceed \$100,000 and employs laborers, mechanics, watchmen, and guards This includes members of survey crews and exploratory drilling operations.

Use of Provision: The following text will be included in applicable contracts without modification:

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 clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27.00 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 clause.
3. *Withholding for unpaid wages and liquidated damages.* Jefferson 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 clause.
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 clause.

Rights to Inventions

Source: 2 CFR § 200 Appendix II (F)

37 CFR § 401

Applicability: This provision applies to all contracts and subcontracts with small business forms or nonprofit organizations that include performance of *experimental, developmental, or research work*. This clause is not applicable to construction, equipment, or professional service contracts unless the contract includes *experimental, developmental, or research work*. This requirement applies to “funding agreements,” but it DOES NOT apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance 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.”

Use of Provision: When applicable, the sponsor’s language in the contract must fully satisfy the requirements of Appendix II to 2 CFR part 200.

Clean Air and Water Pollution Control

Source: 2 CFR § 200 Appendix II (G)

29 CFR Part 5

Applicability: This provision is required on all contracts and lower tier contracts that exceed \$150,000.

Use of Provision: The following language will be included in applicable contracts:

1. Contractor agrees to comply with all applicable standards, orders, and regulations 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. § 1251-13870). The contractor agrees to report any violation to the owner immediately upon discovery. The owner assumes responsibility for notifying the EPA and the FAA.

Debarment and Suspension

Source: 2 CFR Part 180 (Subpart C) 2 CFR Part 3000
2 CFR Part 1200 DOT Order 4200.5

Applicability: Required in all FEMA grant and cooperative agreement programs, regardless of amount. This requirement applies to covered transactions as defined in 2 CFR part 180. AIP funded contracts are non-procurement transactions as defined by §180.970. Covered transactions include any AIP-funded contract, regardless of tier, that is awarded by a contractor, subcontractor, supplier, consultant, or its agents or representative in any transaction, if the amount of the contract is expected to equal or exceed \$25,000. Jefferson County must verify that the firm or individual that is entering into a contract with is not presently suspended, excluded, or debarred by any Federal department or agency from participating in federally assisted projects. This is accomplished by:

1. Checking SAM.gov to verify the firm's or individual's status;
2. Collecting a certification from the firm or individual that is not suspended, debarred, or excluded; and
3. Incorporating a clause into the contract that requires lower tier contracts to verify that no suspended, debarred, or excluded firm or individual is included in the project.

See **Error! Reference source not found.**, Paragraph **Error! Reference source not found.** above for more information on SAM.gov.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of Appendix II to 2 CFR part 200.

Lobbying and Influencing Federal Employees

Source: 2 CFR § 200 Appendix II (J) 31 USC § 1352 – Byrd Anti-Lobbying Amendment
49 CFR Part 20, Appendix A 44 CFR Part 18

Applicability: This requirement applies to all FEMA grant and cooperative agreement programs. Consultants and contractors that apply or bid an award of \$100,000 or more must certify 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 another award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of Appendix II to 2 CFR part 200 Appendix (J) and 31 USC 1352.

If applicable, contractors **must sign and submit** to Jefferson County the “**Certification Regarding Lobbying**” Form included in this bid specification.

Procurement of Recovered Materials

Source: 2 CFR § 200 Appendix II (J) Solid Waste Disposal Act
40 CFR Part 247 2 CFR § 200.322

Applicability: Sponsors of AIP funded development and equipment projects must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. Section 6002 emphasizes maximizing energy and resource recovery through use of affirmative procurement actions for recovered materials identified in the EPA guidelines. When acquiring items designated in the guidelines, the sponsor must procure

items that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition.

This requirement applies to:

- All contracts awarded by a non-Federal entity under FEMA grant and cooperative agreement programs.
- All construction and equipment projects.
- Any contract, professional and property acquisition, that includes procurement of a product that exceeds \$10,000.

Information about this requirement, along with the list of EPA designated items, is available at EPA's Comprehensive Procurement Guidelines website:

<https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>.

The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act." The Uniform Rules authorize FEMA to require additional provisions for non-Federal entity contracts.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of Appendix II to 2 CFR part 200.

Access to Records and Reports

Source: 2 CFR § 200.333

FAA Order 5100.38

2 CFR § 200.336

Applicability: 2 CFR § 200.333 requires a sponsor to retain records pertinent to a federal award for a period of three years from submission of final closure documents. 2 CFR § 200.336 establishes that sponsors must provide Federal entities the right to access records pertinent to the Federal award. FAA policy extends these requirements to the sponsor's contracts and subcontracts of AIP funded projects.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of Appendix II to 2 CFR part 200. The following will be in applicable contracts:

1. The contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the local/state/federal entity providing funding for this project, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
2. The contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters have been resolved.
3. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
4. The Contractor agrees to provide the FEMA Administrator or their representatives access to construction or other work sites pertaining to the work being completed under the contract.
5. In compliance with the Disaster Recovery Act of 2018, the County and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

Affirmative Action Requirement

Source: 41 CFR Part 60-4

FAA Order 5100.38

Executive Order 11246

Applicability: Sponsors are required to set goals for minority participation in AIP funded projects exceeding \$10,000. The goals for minority participation derive from Economic Area (EA) and Standard Metropolitan Statistical Area (SMSA) as established in Volume 45 of the Federal Register dated 10/03/80. Page 65984 contains a table of all EAs and SMSAs and the associated minority participation goals.

Executive Order 11246 has set a goal of 6.9% nationally for female participation for all construction projects. This value remains constant for all counties and states.

Contract Types:

- **Construction:** The sponsor must incorporate this notice in all solicitations for bids or requests for proposals for AIP funded construction work contracts and subcontracts that exceed \$10,000.
- **Equipment:** The sponsor must incorporate this notice in all solicitations for equipment project exceeding \$10,000 that involves installation of equipment onsite (e.g. electrical vault equipment, generators). This provision does not apply to equipment acquisition projects where the manufacturer of the equipment takes place offsite at a manufacturer's plant (e.g. firefighting and vehicles).
- **Professional Services:** The sponsor must incorporate this notice in any professional service agreement if the agreement includes tasks that meet the definition of construction work, as defined by the DOL, and exceeds \$10,000.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of 41 CFR Part 60-4. The following will be in applicable contracts:

Solicitation Clause:

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractors aggregate workforce in each trade on all construction work in the covered area, are as follows:
 - a. Goals for minority participation for each trade: 1.95%
 - b. Goals for female participation in each trade: 6.90%

These goals are applicable to all of the contractor's construction work, whether or not it is federal or federally assisted, performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR Part 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with these goals will be measured against the total work hours performed.

The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of these subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As used in this notice and in the contract resulting from this solicitation, the covered area is Texas, Jefferson County, Beaumont.

Buy American Preferences

Source: 49 USC § 50101

Applicability: the buy American preference requirement in 49 USC § 50101 requires that all still in manufactured goods used on AIP projects be produced in the United States. This statute gives the FAA the ability to issue a waiver to a sponsor to use non-domestic material on an AIP funded project subject to meeting certain conditions a sponsor may request that the FAA issue a waiver from the by American preference requirements if the FA finds that:

1. Applying the provision is not in the public interest;
2. The steel or manufactured goods are not available in sufficient quantity or quality in the United States;
3. The cost of components in subcomponents produced in the United States is more than 60% of the total components of a facility or equipment, and final assembly has taken place in the United States. Items that have an FAA standard specification item number, such as specific airport lighting equipment, are considered the equipment.
4. Applying this provision would increase the cost of the overall project by more than 25%.

For construction and equipment procurement projects, language, forms, and references to 49 USC § 50101 will be included in the solicitation.

Professional Service Agreements typically do not result in a deliverable that meets the definition of a manufactured product. If a PSA includes providing a manufactured good as a deliverable under the contract, the sponsor must include the Buy American Preference provision in the agreement.

Use of Provision: When applicable, the sponsor's language in the contract must fully satisfy the requirements of 49 USC § 50101.

Civil Rights

Source: 49 USC § 47123

Title VI of the Civil Rights Act of 1964

FAA Order 1400.11

US DOT Order 1050.2

Applicability: Title VI of the Civil Rights Act of 1964, as amended, Title VI, prohibits discrimination on the grounds of race, color, or national origin under any program or activity receiving Federal financial assistance. Sponsors must include appropriate clauses from the Standard DOT Title VI Assurances in all contracts and solicitations.

The text of each individual clause comes from the U.S. DOT Order 1050.2 Standard Title VI Assurances and Nondiscrimination Provisions, effective 04/24/2013. These assurances require the sponsor insert the appropriate clauses in the form provided by the DOT. Where the clause refers to the applicable activity, project, or program, it means the AIP project.

TITLE VI SOLICITATION NOTICE

Jefferson County, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC § 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of any contract as a result of this bid, the Contractor, for itself, its assignees, and successors in interest, hereinafter referred to as the Contractor, agrees to comply with the following non-discrimination statutes and authorities, including but not limited to:

- Title VI of the Civil Rights Act of 1964
 - 49 CFR part 21
 - The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
 - Section 504 of the Rehabilitation Act of 1973
 - The Age Discrimination Act of 1975
 - Airport and Airway Improvement Act of 1982
 - The Civil Rights Restoration Act of 1987
 - Titles II and III of the Americans with Disabilities Act of 1990
 - The Federal Aviation Administration's Nondiscrimination Statute
 - Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
 - Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency
 - Title IX of the Education Amendments of 1972
-

Disadvantaged Business Enterprise

Source: 49 CFR part 26

Applicability: A sponsor that anticipates awarding \$250,000 or more in AIP funding prime contracts in a federal fiscal year must have an approved Disadvantaged Business Enterprise (DBE) program on file with the FAA Office of Civil Rights (§26.21). The approved DBE program will identify a 3-year overall program goal that the sponsor bases on the availability of ready, willing, and able DBEs relative to all businesses ready, willing, and able to participate on the project. (§26.45).

Sponsors with a DBE program on file with the FAA must include the three following provisions, if applicable:

- Clause in all solicitations for proposals for which a contract goal has been established;
- Clause in each prime contract, and;
- Clause in solicitations that are obtaining DBE participation through race/gender neutral means.

As a condition of bid responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

1. Names and addresses of the DBE firms that will participate in the contract;
2. A description of the work each DBE firm will perform;
3. Percentage/dollar amount of the participation of each DBE firm listed under 1.
4. Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal; and
5. If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in 49 CFR part 26 Appendix A

The requirements of 49 CFR part 26 apply to this contract. It is the policy of Jefferson County to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract.

Jefferson County encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

DBE Contract Assurances

Contracts as a result of this bid will include contract assurances per §26.13, if applicable:

The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 and the award and administration of Department of Transportation-assisted contracts. Failure by contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or such other remedy as the owner deems appropriate, which may include but is not limited to:

1. Withholding monthly progress payments;
2. Accessing sanctions;
3. Liquidated damages; and/or
4. Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (§26.29) – The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from Jefferson County. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of Jefferson County. This clause applies to both DBE and non-DBE subcontractors.

Distracted Driving

Source: Executive Order 13513

2 CFR §200.67

DOT Order 3902.10

Applicability: The FAA encourages recipients of federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

Use of Provision: The following clause will be included in all Federally-assisted contracts regardless of amount:

In accordance with executive order 13513, federal leadership on reducing text messaging while driving, and DOT order 3902.10, text messaging while driving, the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, Jefferson County encourages the contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles performing work activities associated with the project. The contractor must include the substance of this clause and other sub tier contracts exceeding \$3,500 that involve driving a motor vehicle and performance of work activities associated with the project.

Compliance with Federal Law, Regulations, and Executive Orders

The recipient and its contractors are required to comply with all Federal laws, regulations, and executive orders.

Applicability: FEMA recommends that all non-Federal entities place into their contracts an acknowledgement that FEMA financial assistance will be used to fund the contract along with the requirement that the contractor will comply with all applicable Federal law, regulations, executive orders, and FEMA policies, procedures, and directives.

"This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives."

No Obligation by Federal Government

The FAA and or FEMA is not a party to any transaction between the recipient and its contractor. The FAA and or FEMA is not subject to any obligations or liable to any party for any matter relating to the contract.

Applicability: FEMA recommends that the non-Federal entity include a provision in its contract that states that the Federal Government is not a party to the 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.

“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.”

Program Fraud and False or Fraudulent Statements or Related Acts

Recipients must comply with the requirements of The False Claims Act (31 U.S.C. §§ 3729-3733) which prohibits the submission of false or fraudulent claims for payment to the federal government. See DHS Standard Terms and Conditions: Version 8.1 (2018); and 31 U.S.C. §§ 3801-3812, which details the administrative remedies for false claims and statements made. The non-Federal entity must include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

FEMA recommends that the non-Federal entity include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

“The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this contract.”

BIDDER INFORMATION FORM

Instructions: Complete the form below. Please provide legible, accurate, and complete contact information.
PLEASE PRINT.

Bid Number & Name: IFB 22-011/JW, TAXIWAY A REHABILITATION AT JACK BROOKS REGIONAL AIRPORT

Bidder's Company/Business Name: _____

Bidder's TAX ID Number: _____

If Applicable: HUB Vendor No. _____ DBE Vendor No. _____

Contact Person: _____ **Title:** _____

Phone Number (with area code): _____

Alternate Phone Number if available (with area code): _____

Fax Number (with area code): _____

Email Address: _____

Mailing Address (Please provide a physical address for bid bond return, if applicable):

Address

City, State, Zip Code

REQUIRED FORM

Bidder: Please complete this form
and include with bid submission.

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder _____.
 2. Permanent main office address

_____.
 3. When organized _____.
 4. If a corporation, where incorporated _____.
 5. How many years have been engaged in the contracting business under your present firm or trade name? _____.
 6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion)

_____.
- General character of work performed by your company
7. Have you ever failed to complete any work awarded to you? _____.
 8. Have you ever defaulted on a Contract? _____.
If so, where and why? _____

_____.
 9. Have you ever been fined or had your license suspended by a Contractor's Licensing Board? _____
If so, where and why? _____

_____.
 10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed (attach to back of this document).
 11. List your major equipment available for this Contract (attach to back of this document).
 12. List your experience in construction work similar in scope and scale to this project (attach to back of this document).
 13. Background and experience of the principal members of your organization, including the officers (attach to back of this document).
 14. Credit available: \$ _____.
 15. Give Bank reference: _____.

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? _____

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the proceeding year, to which the Bidder (and the ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

- (a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;
- (b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and
- (c) Criminal proceedings.

Dated at _____ this _____ day of _____, 20____.

(Name of Bidder)

By _

Title _____

STATE OF _____)
) §.

COUNTY OF _____)

_____ being duly sworn deposes and says that he is

_____ of _____
(Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.

SUBSCRIBED AND SWORN TO BEFORE ME this _____ day of _____, 20____.

(Notary Public)

My Commission Expires:

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

CONFLICT OF INTEREST QUESTIONNAIRE

CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity		FORM CIQ
This questionnaire reflects changes made to the law by H.B. 23, 94th Leg., Regular Session. This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor 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 vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.	OFFICE USE ONLY Date Received	
1 Name of vendor who has a business relationship with local governmental entity.		
2 ☐ Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)		
3 Name of local government officer about whom the information in this section is being disclosed. _____ Name of Officer This section (item 3 including subparts A, B, C, & D) must be completed for each officer with whom the vendor 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 vendor? ☐ Yes ☐ No B. Is the vendor 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 interest of one percent or more? ☐ Yes ☐ No D. Describe each employment or business and family relationship with the local government officer named in this section.		

Adopted 8/7/2015

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

Page Intentionally Left Blank

**LOCAL GOVERNMENT OFFICER
CONFLICTS DISCLOSURE STATEMENT – OFFICE USE ONLY**

LOCAL GOVERNMENT OFFICER CONFLICTS DISCLOSURE STATEMENT		FORM CIS
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This is the notice to the appropriate local governmental entity that the following local government officer has become aware of facts that require the officer to file this statement in accordance with Chapter 176, Local Government Code.		OFFICE USE ONLY
1	Name of Local Government Officer	Date Received _____
2	Office Held	
3	Name of vendor described by Sections 176.001(7) and 176.003(a), Local Government Code	
4	Description of the nature and extent of employment or other business relationship with vendor named in item 3	
5	List gifts accepted by the local government officer and any family member, if aggregate value of the gifts accepted from vendor named in item 3 exceeds \$100 during the 12-month period described by Section 176.003(a)(2)(B). Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ (attach additional forms as necessary)	
6	AFFIDAVIT I swear under penalty of perjury that the above statement is true and correct. I acknowledge that the disclosure applies to each family member (as defined by Section 176.001(2), Local Government Code) of this local government officer. I also acknowledge that this statement covers the 12-month period described by Section 176.003(a)(2)(B), Local Government Code. _____ Signature of Local Government Officer AFFIX NOTARY STAMP & SEAL ABOVE Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20_____, to certify which, witness my hand and seal of office. _____ Signature of officer administering oath Printed name of officer administering oath Title of officer administering oath	

Adopted 8/7/2015

**THIS FORM IS FOR
OFFICE USE ONLY**

GOOD FAITH EFFORT (GFE) DETERMINATION CHECKLIST

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded).

☐ Yes ☐ No

Instructions: In order to determine if a “Good Faith Effort” was made in soliciting **Disadvantaged Business Enterprises (DBE)s** for subcontracting opportunities, the following checklist and supporting documentation shall be completed by the Prime Contractor/Consultant, and returned with the Prime Contractor/ Consultant’s bid. This list contains the **minimum** efforts that should be put forth by the Prime Contractor/Consultant when attempting to achieve or exceed the goals of DBE Subcontractor participation. The Prime Contractor/Consultant may extend his/her efforts in soliciting DBE Subcontractor participation beyond what is listed below.

Did the Prime Contractor/Consultant . . . ?

☐ Yes	☐ No	1. To the extent practical, and consistent with standard and prudent industry standards, divide the contract work into the smallest feasible portions, to allow for maximum DBE Subcontractor participation?
☐ Yes	☐ No	2. Notify in writing a reasonable number of DBEs, allowing sufficient time for effective participation of the planned work to be subcontracted?
☐ Yes	☐ No	3. Provide DBEs that were genuinely interested in bidding on a subcontractor, adequate information regarding the project (i.e., plans, specifications, scope of work, bonding and insurance requirements, and a point of contract within the Prime Contractor/Consultant’s organization)?
☐ Yes	☐ No	4. Negotiate in good faith with interested DBEs, and not reject bids from DBEs that qualify as lowest and responsive Bidders?
☐ Yes	☐ No	5. Document reasons DBEs were rejected? Was a written rejection notice, including the reason for rejection, provided to the rejected DBEs?
☐ Yes	☐ No	6. If Prime Contractor/Consultant has zero (0) DBE participation, please explain the reasons why.

**If “No” was selected, please explain and include any pertinent documentation with your bid.
If necessary, please use a separate sheet to answer the above questions.**

Printed Name of Authorized Representative

Signature

Title

Date

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

☐ Yes ☐ No

Instructions for Prime Contractor/Consultant: Bidder shall submit this form with the bid; however, the information below may be submitted after contract award, but prior to beginning performance on the contract. Please submit one form for each DBE Subcontractor/Subconsultant with proper signatures, per the terms and conditions of your contract.

Contractor Name: _____ DBE: ☐ Yes ☐ No

Address: _____

Street	City	State	Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____

Prime Contract Amount: \$

DBE Subcontractor Name: _____

DBE Status (Gender & Ethnicity):

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____

Street	City	State	Zip

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Printed Name of Contractor Representative

Signature of Representative

Date _____

Printed Name of DBE

Signature of Representative

Date

NOTE: NOTHING ON THIS NOTICE OF INTENT FORM IS INTENDED TO CONFER ANY RIGHTS, EXPRESSED OR IMPLIED, TO ANY THIRD PARTIES.

PRE-APPROVAL FOR SUBCONTRACTOR SUBSTITUTIONS MUST BE OBTAINED FROM THE JEFFERSON COUNTY PURCHASING AGENT'S REPRESENTATIVE. THE "DBE SUBCONTRACTOR/SUBCONSULTANT CHANGE FORM" MUST BE COMPLETED AND FAXED TO 409-835-8456.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

DBE Subcontractor Disclosure

(Duplicate as Needed)

Description of Subcontract Work to be Performed:

Description of Subcontract Work to be Performed:

Bidder: Please complete this form and include with bid submission.

RESIDENCE CERTIFICATION/TAX FORM

Pursuant to Texas Government Code §2252.001 *et seq.*, as amended, Jefferson County requests Resident Certification. §2252.001 *et seq.* of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

- (3) "Non-resident Bidder" refers to a person who is not a resident.
- (4) "Resident Bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

- ☐ I certify that _____ [company name] is a Resident Bidder of Texas as defined in Government Code §2252.001.
- ☐ I certify that _____ [company name] is a Nonresident Bidder as defined in Government Code §2252.001 and our principal place of business is _____ (city and state).

Taxpayer Identification Number (T.I.N.):	
Company Name submitting bid/proposal:	
Mailing address:	
If you are an individual, list the names and addresses of any partnership of which you are a general partner:	

Property: List all taxable property owned by you or above partnerships in Jefferson County.

Jefferson County Tax Acct. No.*	Property address or location**

* This is the property amount identification number assigned by the Jefferson County Appraisal District.

** For real property, specify the property address or legal description. For business property, specify the address where the property is located. For example, office equipment will normally be at your office, but inventory may be stored as a warehouse or other location.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

HOUSE BILL 89 VERIFICATION

I, _____, the undersigned representative of (company or business name) _____ (heretofore referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.002, Texas Government Code:

1. **“Boycott Israel”** means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made ordinary business purposes; and
2. **“Company”** means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or an limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business association that exist to make a profit.

Signature of Company Representative

Date

On this _____ day of _____, 20____, personally appeared

_____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

Notary Seal

Notary Signature

Date

SENATE BILL 252 CERTIFICATION

On this day, I, Deborah L. Clark, Purchasing Agent for Jefferson County, Texas, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, certify that I did review the website of the Comptroller of the State of Texas concerning the listing of companies that is identified under Section 806.051, Section 807.051, or Section 2253.253 and I have ascertained that the below named company is not contained on said listing of companies which do business with Iran, Sudan, or any Foreign Terrorist Organization.

Company Name

IFB/RFP/RFQ number**Certification check performed by:**

Purchasing Representative

Date**REQUIRED FORM**

**Bidder: Please complete this form
and include with bid submission.**

BID SURETY HERE

CONTRACT

THIS AGREEMENT made this _____ day of _____, 2021, by and between **TBD**, a Corporation organized and existing under the laws of the State of **Texas** hereinafter called the "Contractor", and **JEFFERSON COUNTY, TEXAS**, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **Taxiway A Rehabilitation** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, because of his performance of the Contract, for the total quantities of work performed at the lump sum and unit prices stipulated in the Proposal for the **Base Bid, not to exceed a total contract value of: COST IN WORDS (\$XXX.XX.XX)** subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL PROVISIONS.

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **Two Hundred and Ten (210)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL PROVISIONS of these Contract Documents). If the Contractor shall fail to complete the work within the time specified, he and his Surety shall be liable for payment to the Owner, as liquidated damages ascertained and agreed, and not in the nature of a penalty, the amount specified in the PROPOSAL of these Contract Documents for each day of delay. To the extent sufficient in amount, liquidated damages shall be deducted from the payments to be made under this Contract.

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

1. General Conditions of Bidding and Terms Of Contract
2. Special Requirements/Bid Submission Instructions
3. Federal Mandated Contract Provisions
4. Title Vi Solicitation Notice
5. Bidder Information Form
6. Statement Of Bidder's Qualifications
7. Conflict Of Interest Questionnaire
8. Local Government Officer
9. Good Faith Effort (GFE) Determination Checklist
10. Notice Of Intent (NOI) To Subcontract with Disadvantaged Business Enterprises (DBE)
11. Disadvantaged Business Enterprises (DBE) Subcontracting Participation Declaration Form
12. Residence Certification/Tax Form
13. House Bill 89 Verification
14. Senate Bill 252 Certification
15. Bid Surety
16. Contract
17. Notice Of Award
18. Notice To Proceed
19. Performance And Payment Bonds
20. Offer And Acceptance Form
21. Bid Form and Proposal
22. Vendor References Form
23. Signature Page
24. Certification Regarding Lobbying
25. Bid Affidavit
26. Addenda
27. Wage Rates

- 28. Change Order Form
- 29. General Provisions (FAA AC 150/5370-10H)
- 30. Special Provisions
- 31. Technical Specifications

This Agreement, together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance-Payment Bond shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of Texas, and shall comply with applicable Texas laws.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in four (4) counterparts, each of which shall be considered an original on the day and year first above written.

TBB
(Contractor)

ATTEST: _____ By _____

Title:

(Print the names underneath all signatures)

(Street)

(City)

JEFFERSON COUNTY, TEXAS,

(Owner)

ATTEST: _____ By _____

Title:

(Print the names underneath all signatures)

NOTICE OF AWARD
DATED: _____, 2021

TO: _____

ADDRESS:

PROJECT OWNER: JEFFERSON COUNTY

FAA AIP GRANT No. X-XX-XXXX-XXX-XXXX

CONTRACT FOR: TAXIWAY A REHABILITATION

CONSTRUCTION OF: JACK BROOKS REGIONAL AIRPORT

You are notified that your Bid dated XXX, 2021 for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for Base Bid.

The Contract Price of your contract is _____ dollars
 and no /100 (\$XXXXXX).

You must comply with the following conditions precedent within FIFTEEN (15) days of the date of this *Notice of Award* that is by, XXXXX, 2021

1. You must deliver to the **OWNER 4** fully executed counterparts of the Agreement including all the Contract Documents.
2. You must deliver with the executed Agreement the Contract Security (Bonds) as specified in the Advertisement for Bids, General Conditions (Article 2), and Supplementary Conditions.
3. You must deliver to the **OWNER 4** original ***Certificates of Insurance***, naming the Owner (***Jefferson County***) and Engineer (***Garver, LLC.***) and their respective agents and employees, to be expressly named as additional insured's, in accordance with the General Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) days after you comply with the above conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

Sincerely,
GARVER, LLC

Jason Frank, PE
 Senior Project Manager

ACCEPTANCE OF AWARD:
CONTRACTOR:

 BY: _____
 TITLE: _____
 DATE: _____

XXXXXXX, 2021

XXXXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX

Re: Jack Brooks Regional Airport
 Taxiway A Rehabilitation; Jefferson County Contract 22-011/JW
 AIP No. X-XX-XXXX-XXX-XXXX
 Notice to Proceed

Dear Mr. _____:

Please consider this letter as your Notice to Proceed with construction on the above referenced project, effective XXXXXXX, 2021.

Under the terms of the Contract, contract time will start when construction begins or ten (10) days after the effective date of this Notice to Proceed, whichever comes first. Work must be completed within 210 calendar days of the start of contract time, and construction phase 2 must be completed within 60 calendar days. Before you start work at the site, Special Provisions Section C-01 requires that you must deliver to the Engineer and Owner Certificates of Insurance which you are required to purchase and maintain in accordance with the Contract. As stipulated in the Contract Proposal, failure to complete the work within the contract time (including phase 2) shall result in the assessment of liquidated damages. The damages are therein set in the amount of \$1,500.00 per calendar day.

Please call me if you have any questions.

Sincerely,

GARVER, LLC

Jason Frank, P.E.
 Sr. Project Manager

CC: Alex Rupp, Jack Brooks Regional Airport (via email)

PERFORMANCE AND PAYMENT BONDS HERE

**OFFER AND ACCEPTANCE FORM
OFFER TO CONTRACT**

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer.

We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): _____, _____, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

_____ Company Name	For clarification of this offer, contact: _____ Name & Title
_____ Address	_____ Name & Title
_____ City State Zip	_____ Phone Fax
_____ Signature of Person Authorized to Sign	_____ E-mail
_____ Printed Name	
_____ Title	

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

ACCEPTANCE OF OFFER

The Offer is hereby accepted for the following items: Taxiway A Rehabilitation at the Jack Brooks Regional Airport

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as **Contract No. 22-011/JW, Taxiway A Rehabilitation at the Jack Brooks Regional Airport**. The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

COUNTERSIGNED:

Jeff R. Branick
Jefferson County Judge

Date

ATTEST:

Laurie Leister
Interim Jefferson County Clerk

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

BID FORM AND PROPOSAL

Place _____

Date _____

Proposal of _____,

a corporation organized and existing under the laws of the State of _____,

or

Proposal of _____,

a partnership consisting of _____,

or

Proposal of _____,

an individual doing business as _____,

To: Jack Brooks Regional AirportThis bid results from your advertisement for bids for the construction of the **Taxiway A Rehabilitation**.

The undersigned Bidder, having visited the site of the work, having examined the Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents at and for the unit prices proposed in the attached Bid Form(s).

The undersigned Bidder agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" (except as modified in accordance with the GENERAL FAA PROVISIONS of these Contract Documents). Should the work fail to be completed within the time herein stated, the Contractor shall pay to the Owner, as fixed and agreed liquidated damages, and not as a penalty, the sum, for each day of delay until the work is completed and accepted, as stipulated in GENERAL FAA PROVISIONS of these Contract Documents. It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL FAA PROVISIONS of these Contract Documents.

List of Plans

Sheet Number	Drawing Number	Sheet Title
GENERAL		
1	GI-001	COVER SHEET
2	GI-002	SHEET INDEX AND SUMMARY OF QUANTITIES
3	GI-101	PROJECT LAYOUT AND SURVEY CONTROL PLAN
4	GC-001	CONSTRUCTION SAFETY & PHASING NOTES 1
5	GC-002	CONSTRUCTION SAFETY & PHASING NOTES 2
6	GC-101	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 1
7	GC-102	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 2A
8	GC-103	CONSTRUCTION SAFETY AND PHASING PLAN - PHASE 2B
9	GC-201	CONSTRUCTION SAFETY DETAILS 1
10	GC-202	CONSTRUCTION SAFETY DETAILS 2
11	GC-203	CONSTRUCTION SAFETY DETAILS 3
12	GC-204	CONSTRUCTION SAFETY DETAILS 4
CIVIL		
13	CV-101	EXISTING CONDITIONS AND DEMOLITION PLAN
14	CE-101	EROSION CONTROL PLAN
15	CE-201	EROSION CONTROL DETAILS
16	CC-101	GRADING AND DRAINAGE PLAN 1
17	CC-102	GRADING AND DRAINAGE PLAN 2
18	CC-103	GRADING AND DRAINAGE PLAN 3
19	CC-104	GRADING AND DRAINAGE PROFILES
20	CC-201	GRADING AND DRAINAGE DETAILS 1
21	CC-202	GRADING AND DRAINAGE DETAILS 2
22	CH-101	PRE-DEVELOPMENT DRAINAGE AREA MAP
23	CH-102	POST-DEVELOPMENT DRAINAGE AREA MAP
24	CP-001	TYPICAL SECTIONS
25	CP-101	PLAN AND PROFILE 1
26	CP-102	PLAN AND PROFILE 2
27	CP-103	PLAN AND PROFILE 3
28	CJ-201	JOINT LAYOUT PLAN 1
29	CJ-202	JOINT LAYOUT PLAN 2
30	CJ-203	JOINT LAYOUT PLAN 3
31	CJ-301	JOINT DETAILS
MARKINGS		
32	CM-101	TAXIWAY MARKING PLAN 1
33	CM-102	TAXIWAY MARKING PLAN 2
34	CM-103	TAXIWAY MARKING PLAN 3
35	CM-104	RUNWAY MARKING PLAN 1
36	CM-105	RUNWAY MARKING PLAN 2

37	CM-201	TAXIWAY MARKING DETAILS 1
38	CM-202	TAXIWAY MARKING DETAILS 2
39	CM-203	RUNWAY MARKING DETAILS
		ELECTRICAL
40	EN-001	LIGHTING LEGEND AND GENERAL NOTES
41	EN-002	LIGHTING KEYED NOTES
42	ED-101	LIGHTING REMOVAL PLAN 1
43	ED-102	LIGHTING REMOVAL PLAN 2
44	ED-103	LIGHTING REMOVAL PLAN 3
45	ED-104	LIGHTING REMOVAL PLAN 4
46	ED-105	LIGHTING REMOVAL PLAN 5
47	ED-106	LIGHTING REMOVAL PLAN 6
48	EL-101	LIGHTING INSTALLATION PLAN 1
49	EL-102	LIGHTING INSTALLATION PLAN 2
50	EL-103	LIGHTING INSTALLATION PLAN 3
51	EL-104	LIGHTING INSTALLATION PLAN 4
52	EL-105	LIGHTING INSTALLATION PLAN 5
53	EL-106	LIGHTING INSTALLATION PLAN 6
54	EL-501	LIGHTING REMOVAL DETAILS
55	EL-502	LIGHTING INSTALLATION DETAILS 1
56	EL-503	LIGHTING INSTALLATION DETAILS 2
57	EL-504	LIGHTING INSTALLATION DETAILS 3
58	EL-505	LIGHTING INSTALLATION DETAILS 4
59	EL-506	LIGHTING INSTALLATION DETAILS 5
60	EL-507	LIGHTING INSTALLATION DETAILS 6
61	EL-508	LIGHTING INSTALLATION DETAILS 7
62	EL-509	LIGHTING INSTALLATION DETAILS 8
63	EL-510	LIGHTING INSTALLATION DETAILS 9
64	EL-511	LIGHTING INSTALLATION DETAILS 10
		CROSS SECTIONS
65	XS-101	TAXIWAY A EAST CROSS SECTIONS 1
66	XS-102	TAXIWAY A EAST CROSS SECTIONS 2
67	XS-103	TAXIWAY A EAST CROSS SECTIONS 3
68	XS-104	TAXIWAY A EAST CROSS SECTIONS 4
69	XS-201	TAXIWAY A WEST CROSS SECTIONS 1
70	XS-202	TAXIWAY A WEST CROSS SECTIONS 2
71	XS-203	TAXIWAY A WEST CROSS SECTIONS 3
72	XS-204	TAXIWAY A WEST CROSS SECTIONS 4
73	XS-205	TAXIWAY A WEST CROSS SECTIONS 5
74	XS-206	TAXIWAY A WEST CROSS SECTIONS 6

List of Technical Specifications

Specification Item No.	Description
SS-101	Safety Plan Compliance Document (SPCD)
SS-110	Standard Specifications
SS-120	Construction Safety and Security
SS-130	Trench and Excavation Safety Systems
SS-300	Basic Electrical Requirements
SS-301	Electrical Demolition Work
SS-305	Directional Boring
SS-310	Airport Lighting Systems
C-100	Contractor Quality Control Program (CQCP)
C-102	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control
C-105	Mobilization
P-101	Preparation/Removal of Existing Pavements
P-152	Excavation, Subgrade, and Embankment
P-155	Lime-Treated Subgrade
P-208	Aggregate Base Course
P-501	Cement Concrete Pavement
P-605	Joint Sealants for Pavements
P-610	Concrete for Miscellaneous Structures
P-620	Runway and Taxiway Marking
D-701	Pipe for Storm Drains and Culverts
D-751	Manholes, Catch Basins, Inlets and Inspection Holes
D-752	Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures
T-901	Seeding
T-904	Sodding
T-905	Topsoil
L-108	Underground Power Cable for Airports
L-110	Airport Underground Electrical Duct Banks and Conduits
L-115	Electrical Manholes and Junction Structures
L-125	Installation of Airport Lighting Systems

Bidder acknowledges receipt of the following addendum (addenda):

Addendum No. _____ dated _____

Addendum No. _____ dated _____

Addendum No. _____ dated _____

The undersigned Bidder agrees that this bid shall be good and shall not be withdrawn for a period of ninety (90) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within ninety (90) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned Bidder that the Owner reserves the right to reject any or all bids.

The following provisions are also included by reference:

- Davis Bacon Act (29 CFR Part 5.5)
- EEO Compliance Reports (41 CFR Part 60-1.7)
- Trade Restriction Certification (49 CFR Part 30)
- Buy American Preferences (Title 49 United States Code, Chapter 501)
- Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)
- Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (49 CFR Part 29)

Accompanying this Proposal as bid security is a certified check/bid bond (*strike one*)

in the amount of _____ Dollars

(\$_____), being not less than five percent (5%) of the total amount of the bid for the base bid. If the undersigned Bidder is the successful Bidder, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

BASE BID

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-120-3.1	CONSTRUCTION SAFETY AND SECURITY	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-130-4.1	TRENCH AND EXCAVATION SAFETY SYSTEMS	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
C-100-14.1	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
C-102-5.1	TEMPORARY EROSION CONTROL	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

C-105-6.1	MOBILIZATION (MAXIMUM 5% OF TOTAL BID EXCLUSIVE MOBILIZATION)	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-101-5.1	CONCRETE PAVEMENT REMOVAL	S.Y.	26400	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-101-5.2	PAVEMENT MARKING REMOVAL	S.F.	7387	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-152-4.1	UNCLASSIFIED EXCAVATION	C.Y.	10695	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-152-4.2	UNSUITABLE EXCAVATION	C.Y.	500	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

P-155-8.1	LIME-TREATED SUBGRADE (12")	S.Y.	18480	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-155-8.2	LIME	TON	880	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-208-5.1	6" AGGREGATE BASE COURSE	S.Y.	17550	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-501-8.1	11.5" PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	16610	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-620-5.1a	PAVEMENT MARKINGS (WHITE) WITH REFLECTIVE MEDIA	S.F.	27676	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

P-620-5.1b	PAVEMENT MARKINGS (YELLOW) WITH REFLECTIVE MEDIA	S.F.	13552	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-620-5.1c	PAVEMENT MARKINGS (RED) WITH REFLECTIVE MEDIA	S.F.	450	\$	\$
	Unit price in words: _____ dollars and _____ /100				
P-620-5.1d	PAVEMENT MARKINGS (BLACK) WITHOUT REFLECTIVE MEDIA	S.F.	60500	\$	\$
	Unit price in words: _____ dollars and _____ /100				
D-701-5.1	18" REINFORCED CONCRETE PIPE, CLASS III	L.F.	427	\$	\$
	Unit price in words: _____ dollars and _____ /100				
D-701-5.2	24" REINFORCED CONCRETE PIPE, CLASS III	L.F.	684	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

D-751-5.1	5' X 5' AIRFIELD RATED GRATE INLET	EACH	7	\$	\$
	Unit price in words: _____ dollars and _____ /100				
D-752-5.1	24" REINFORCED CONCRETE SAFETY END TREATMENT	EACH	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
T-901-5.1	SEEDING	ACRE	4.3	\$	\$
	Unit price in words: _____ dollars and _____ /100				
T-904-5.1	SODDING	S.Y.	6000	\$	\$
	Unit price in words: _____ dollars and _____ /100				
T-905-5.1	TOPSOIL (OBTAINED ON-SITE OR OFF-SITE 4" THICKNESS)	S.Y.	25430	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

SS-300-5.1	LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-301-5.1	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EACH	124	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-301-5.2	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EACH	24	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-301-5.3	EXISTING ABANDONED SIGN BASE, DEMOLISHED	EACH	6	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-305-5.1	DIRECTIONAL BORING, 1-WAY 2"C POLYETHYLENE CONDUIT	L.F.	25	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

SS-305-5.2	DIRECTIONAL BORING, 2-WAY 2"C POLYETHYLENE CONDUIT	L.F.	1400	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-310-5.1	TEMPORARY AIRFIELD LIGHTING (PHASE 1)	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-310-5.2	TEMPORARY AIRFIELD LIGHTING (PHASE 2A)	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
SS-310-5.3	TEMPORARY AIRFIELD LIGHTING (PHASE 2B)	L.S.	1	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-108-5.1	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	L.F.	15000	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

L-108-5.2	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	L.F.	11000	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-108-5.3	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8" MINIMUM DEPTH	L.F.	8500	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2-INCH	L.F.	11000	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-110-5.2	CONCRETE ENCASED ELECTRICAL DUCT BANK, 2-WAY 2-INCH	L.F.	600	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

L-115-5.1	2-CAN JUNCTION CAN PLAZA	EACH	22	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-125-5.1	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED	EACH	169	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-125-5.2	L-858(L) BASE MOUNTED, SIZE 2, 1- MODULE GUIDANCE SIGN, INSTALLED	EACH	7	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-125-5.3	L-858(L) BASE MOUNTED, SIZE 2, 2- MODULE GUIDANCE SIGN, INSTALLED	EACH	5	\$	\$
	Unit price in words: _____ dollars and _____ /100				
L-125-5.4	L-858(L) BASE MOUNTED, SIZE 2, 3- MODULE GUIDANCE SIGN, INSTALLED	EACH	13	\$	\$
	Unit price in words: _____ dollars and _____ /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY A REHABILITATION
BID FORM

L-125-5.5	VEHICULAR STOP SIGN, INSTALLED	EACH	2	\$	\$
	Unit price in words: _____ dollars and _____ /100				

TOTAL (BASE BID) \$ _____

Total price in words: _____ dollars and _____ /100

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Contract Award will be based on the lowest qualified bidder, depending on the availability of funds.

Bidders understand the Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. Funding availability will be considered in selecting the bid award. The bidder agrees this bid shall be honored and may not be withdrawn for a period of 90 calendar days after the scheduled closing time for receiving bids.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" and to fully complete the project within:

- **210 Calendar Days** thereafter.
 - o Construction Phase 2 shall be completed within 60 **Calendar Days** thereafter.

Bidder further agrees to pay as liquidated damages the sum of **one thousand five hundred dollars (\$1500.00)** for each calendar day to complete the work beyond the allotted time (including Phase 2) or as extended by an approved Change Order or Supplemental Agreement.

VENDOR REFERENCES FORM

Bidder: Please list at least three (3) companies or governmental agencies (preferably a municipality) where the same or similar products and/or services as contained in this specification package were recently provided.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

REFERENCE ONE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE TWO

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE THREE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

SIGNATURE PAGE

As permitted under Article 4413 (32c) V.A.C.S., other governmental entities may wish to participate under the same terms and conditions contained in this contract (i.e., piggyback). In the event any other entity participates, all purchase orders will be issued directly from and shipped directly to the entity requiring supplies/services. Jefferson County shall not be held responsible for any orders placed, deliveries made or payment for supplies/services ordered by another entity. Each entity reserves the right to determine their participation in this contract.

Would Bidder be willing to allow other governmental entities to piggyback off this contract, if awarded, under the same terms and conditions? Yes ☐ No ☐

This bid shall remain in effect for ninety (90) days from bid opening and shall be exclusive of federal excise and state and local sales tax (exempt).

The undersigned agrees, if this bid is accepted, to furnish any and all items upon which prices are offered, at the price and upon the terms and conditions contained in the Invitation for Bid, Conditions of Bidding, Terms of Contract, and Specifications and all other items made a part of the accepted contract.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other Bidder or to any other person(s) engaged in this type of business prior to the official opening of this bid. And further, that neither the Bidder nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to bid or not to bid thereon.

Bidder (Entity Name)

Signature

Street & Mailing Address

Print Name

City, State & Zip

Date Signed

Telephone Number

Fax Number

E-mail Address

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of 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 undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned 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.

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official *(Please Print)*

Date

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

BID AFFIDAVIT

The undersigned certifies that the bid prices contained in this bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all commodities upon which prices are extended at the price offered, and upon the conditions contained in the specifications and the Notice to Bidders.

STATE OF _____ COUNTY OF _____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____,

on this day personally appeared _____, who
(name)

after being by me duly sworn, did depose and say:

"I, _____ am a duly authorized officer of/agent
(name)

for _____ and have been duly authorized to execute the
(name of firm)

foregoing on behalf of the said _____.
(name of firm)

I hereby certify that the foregoing bid has not been prepared in collusion with any other Bidder or other person or persons engaged in the same line of business prior to the official opening of this bid. Further, I certify that the Bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities bid on, or to influence any person or persons to bid or not to bid thereon."

Name and address of Bidder: _____

Fax: _____ Telephone# _____

by: _____ Title: _____
(print name)

Signature: _____

SUBSCRIBED AND SWORN to before me by the above-named

_____ on

this the _____ day of _____, 20__.

Notary Public in and for
the State of _____

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

ADDENDA

INSERT ADDENDA HERE

WAGE RATES

Article 5159a of the Revised Civil Statutes of Texas, passed by the 43rd Legislature Acts of 1933, Page 91, Chapter 45, provides that any government subdivision shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic and shall specify in the call for bids and in the Contract the prevailing rate of per diem wages which shall be paid for each craft type of workman. This Article further provides that the CONTRACTOR shall forfeit, as a penalty, to the City, County, or State, or other political subdivision, Ten Dollars (\$10.00) per day for each laborer, or workman, or mechanic who is not paid the stipulated wage for the type of work performed by him as set up on the wage scale. The OWNER is authorized to withhold from the CONTRACTOR, after full investigation by the awarding body, the amount of this penalty in any payment that might be claimed by the CONTRACTOR or Subcontractor. The Act makes the CONTRACTOR responsible for the acts of the Subcontractor in this respect.

The Article likewise requires that the CONTRACTOR and Subcontractor keep an accurate record of the names and occupations of all persons employed by him and show the actual per diem wages paid to each worker, and these records are open to the inspection of the OWNER.

The Davis Bacon minimum wage rates for this project are as follows:

LABOR CLASSIFICATION AND MINIMUM WAGE SCALE

General Decision Number: TX20220038 01/07/2022

Superseded General Decision Number: TX20210038

State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

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)(2)-(60).

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 \$15.00 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 2022.

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 \$11.25 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 2022.

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 www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/07/2022

* SUTX2011-013 08/10/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.98	
ELECTRICIAN.....	\$ 27.11	
FORM BUILDER/FORM SETTER Paving & Curb.....	\$ 12.34	
Structures.....	\$ 12.23	
LABORER Asphalt Raker.....	\$ 12.36	
Flagger.....	\$ 10.33	
Laborer, Common.....	\$ 11.02	
Laborer, Utility.....	\$ 11.73	
Pipelayer.....	\$ 12.12	
Work Zone Barricade Servicer.....	\$ 11.67	

PAINTER (Structures).....\$ 18.62

POWER EQUIPMENT OPERATOR:

Asphalt Distributor.....\$ 14.06
 Asphalt Paving Machine.....\$ 14.32
 Broom or Sweeper.....\$ 12.68
 Concrete Pavement
 Finishing Machine.....\$ 13.07
 Concrete Paving, Curing,
 Float, Texturing Machine....\$ 11.71
 Concrete Saw.....\$ 13.99
 Crane, Hydraulic 80 Tons
 or less.....\$ 13.86
 Crane, Lattice boom 80
 tons or less.....\$ 14.97
 Crane, Lattice boom over
 80 Tons.....\$ 15.80
 Crawler Tractor.....\$ 13.68
 Excavator, 50,000 pounds
 or less.....\$ 12.71
 Excavator, Over 50,000
 pounds.....\$ 14.53
 Foundation Drill, Crawler
 Mounted.....\$ 17.43
 Foundation Drill, Truck
 Mounted.....\$ 15.89
 Front End Loader 3 CY or
 Less.....\$ 13.32
 Front End Loader, Over 3 CY.\$ 13.17
 Loader/Backhoe.....\$ 14.29
 Mechanic.....\$ 16.96
 Milling Machine.....\$ 13.53
 Motor Grader, Fine Grade....\$ 15.69
 Motor Grader, Rough.....\$ 14.23
 Off Road Hauler.....\$ 14.60
 Pavement Marking Machine....\$ 11.18
 Piledriver.....\$ 14.95
 Roller, Asphalt.....\$ 11.95
 Roller, Other.....\$ 11.57
 Scraper.....\$ 13.47
 Spreader Box.....\$ 13.58

Servicer.....\$ 13.97

Steel Worker

Reinforcing Steel.....\$ 15.15
 Structural Steel Welder.....\$ 12.85
 Structural Steel.....\$ 14.39

TRUCK DRIVER

Low Boy Float.....	\$ 16.03
Single Axle.....	\$ 11.46
Single or Tandem Axle Dump..	\$ 11.48
Tandem Axle Tractor w/Semi	
Trailer.....	\$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

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 www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union, which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Division National Office Branch of Wage Surveys. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION

CHANGE ORDER FORM

Change Order**No.** _____

Date of Issuance: _____

Project: Owner: _____

Contract: _____

Contractor: _____

Effective Date: _____

Owner's Contract No.: _____

Date of Contract: _____

Engineer's Project No.: _____

The Contract Documents are modified as follows upon execution of this Change Order:

Description: _____

Attachments: (List documents supporting change): _____

CHANGE IN CONTRACT PRICE:

Original Contract Price: _____

Substantial completion (days or date): _____

\$ Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change

Orders No. _____ to No. _____:

[Increase] [Decrease] from previously approved Change Orders

No. _____ to No. _____:

Substantial completion (days): _____

\$ Ready for final payment (days): _____

Contract Price prior to this Change Order: _____

Substantial completion (days or date): _____

[Increase] [Decrease] of this Change Order: _____

Substantial completion (days or date): _____

\$ Ready for final payment (days or date): _____

Contract Price incorporating this Change Order: Contract Times with all approved Change Orders: _____

Substantial completion (days or date): _____

\$ Ready for final payment (days or date): _____

RECOMMENDED:**ACCEPTED:****ACCEPTED:**_____
By:
Engineer (Authorized Signature)_____
By:
Owner (Authorized Signature)_____
By:
Contractor (Authorized signature)_____
Date:_____
Date:_____
Date:_____
Approved by Funding Agency (if applicable):_____
Date:

GENERAL PROVISIONS**SECTION 10 DEFINITION OF TERMS**

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is Jefferson County, TX .
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.

12/21/2018

AC 150/5370-10H

Paragraph Number	Term	Definition
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None

END OF SECTION 10

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). See Page A-1

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to **5 percent** of the total project cost.

A prebid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; **This shall occur at the time referenced in the Advertisement and the Proposal, unless otherwise specified herein.**

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials

furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner *in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid* before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than **7** days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

- a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.
- b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within ~~[] calendar days of the date specified for publicly opening proposals the time referenced in the Advertisement and the Proposal~~, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within *the time specified in the proposal*.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of

12/21/2018**AC 150/5370-10H**

this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

12/21/2018

AC 150/5370-10H

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

SECTION 50 CONTROL OF WORK

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. See Special Provisions (Page K-1)

- A. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS
- B. STATE TERMS AND CONDITIONS
- C. LOCAL TERMS AND CONDITIONS

50-05 Cooperation of Contractor. The Contractor shall be supplied with three hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **electronic CAD format (.dwg or .dgn).**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and

replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases

12/21/2018**AC 150/5370-10H**

the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

SECTION 60 CONTROL OF MATERIALS

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. *See Section C-105*

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

12/21/2018**AC 150/5370-10H**

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Owner	Contract (Phone Number)
XXXX Utility	XXXX (XXX-XXX-XXXX)

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. **The CSPP is on sheet(s) GC-001 through GC-103 of the project plans.**

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and

12/21/2018

AC 150/5370-10H

Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Detailed phasing information is provided in the Construction Safety and Phasing Plan.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the

Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to

12/21/2018

AC 150/5370-10H

prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. See Special Provisions.

END OF SECTION 70

SECTION 80 EXECUTION AND PROGRESS

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work *and in advance of the preconstruction meeting*. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least **48 hours** prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has

12/21/2018

AC 150/5370-10H

been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
See Proposal and Contract		

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

12/21/2018

AC 150/5370-10H

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

SECTION 90 MEASUREMENT AND PAYMENT

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

MEASUREMENT AND PAYMENT TERMS

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton or hundredweight.
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

12/21/2018

AC 150/5370-10H

Term	Description
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i> .
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. Retainage will not be withheld on this project. No retainage will be withheld by the Owner from progress payments due the prime Contractor. Retainage by the prime or subcontractors is prohibited, and no retainage will be held by the prime from progress due subcontractors.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the project work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

12/21/2018

AC 150/5370-10H

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

- a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

12/21/2018

AC 150/5370-10H

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

- a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.
- b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.
- d. Complete all punch list items identified during the Final Inspection.
- e. Provide complete release of all claims for labor and material arising out of the Contract.
- f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the

Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

SPECIAL PROVISIONS

TABLE OF CONTENTS

A. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01	Civil Rights - General
A-02	Civil Rights - Title VI Assurance
A-03	Occupational Safety and Health Act of 1970
A-04	Right to Inventions
A-05	Seismic Safety
A-06	Access to Records and Reports
A-07	Buy American Preference
A-08	Disadvantaged Business Enterprise
A-09	Energy Conservation Requirements
A-10	Federal Fair Labor Standards Act (Federal Minimum Wage)
A-11	Trade Restriction Certification
A-12	Veteran's Preference
A-13	Tax Delinquency and Felony Conviction
A-14	Copeland "Anti-Kickback" Act
A-15	Davis-Bacon Requirements
A-16	Distracted Driving
A-17	Affirmative Action Requirement
A-18	Equal Employment Opportunity (E.E.O.)
A-19	Prohibition of Segregated Facilities
A-20	Termination of Contract
A-21	Procurement of Recovered Materials
A-22	Debarment and Suspension
A-23	Contract Workhours and Safety Standards Act Requirements
A-24	Lobbying and Influencing Federal Employees
A-25	Breach of Contract Terms
A-26	Clean Air and Water Pollution Control

B. STATE TERMS AND CONDITIONS

NOT USED

C. LOCAL TERMS AND CONDITIONS

C-01	Contractor's Insurance
C-02	Utilities
C-03	Legal Holidays
C-04	Clean Up
C-05	Project Meetings and Coordination
C-06	Liquidated Damages for Delay
C-07	Care of Work
C-08	Quality Assurance/Materials Testing
C-09	Record Documents
C-10	Contractor/Subcontractor/Supplier Legal Disputes
C-11	General Guaranty
C-12	Contractor's Release and Affidavit
C-13	Submittals
C-14	Stormwater Pollution Prevention Plan
C-15	Test Borings/Subsurface Information
C-16	Wage Rates

SECTION A – FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 CIVIL RIGHTS - GENERAL

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI Solicitation Notice:

The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Acts And Authorities**, as they may be amended from time to time, which are herein incorporated 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, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities:

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

A-03 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A-04 RIGHT TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within in the 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental or research work.

A-05 SEISMIC SAFETY

The contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

A-06 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives, access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-07 BUY AMERICAN PREFERENCE

The contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy American certification included in the contract documents with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

See Section 010470 "Bidder Certifications" for Contractor Buy American Certification.

A-08 DISADVANTAGED BUSINESS ENTERPRISE

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of Department of Transportation-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Owner deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

A-09 ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201et seq).

A-10 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

A-11 TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R.);

- b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the U.S.T.R.; and
- c. has not entered into any subcontract for any product to be used on the Federal on the project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- (1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R. or
- (2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such U.S.T.R. list or
- (3) who incorporates in the public works project any product of a foreign country on such U.S.T.R. list;

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by U.S.T.R., unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A-12 VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 U.S.C. 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

A-13 TAX DELINQUENCY AND FELONY CONVICTIONS

The Contractor shall be required to complete the certification regarding tax delinquency and felony convictions included in these contract documents.

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A-14 COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 U.S.C. 874 and 40 U.S.C. 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A-15 DAVIS-BACON REQUIREMENTS

1. Minimum Wages

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 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 (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)

- (A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under

the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage

requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- (ii) (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without

weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

- (B) 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:
 - (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
 - (2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (ii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.
- (iii) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the sponsor, the Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually

performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by 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 the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with the Davis-Bacon and Related Act Requirements

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility

- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

A-16 DISTRACTED DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 and involve driving a motor vehicle in performance of work activities associated with the project.

A-17 AFFIRMATIVE ACTION REQUIREMENT

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: **(Vol. 45 Federal Register pg. 65984 10/3/80)**

Goals for female participation in each trade: **X.X%**

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Jefferson County, Texas.**

A-18 EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)

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, 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 identify 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 considerations for employment without regard to race, color, religion, sex, or national origin.
- (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 of the 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 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.
- (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 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.
- (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.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d. "Minority" includes:

- (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the

completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen,

etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

- h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is

the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-19 PROHIBITION OF SEGREGATED FACILITIES

- (a) 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 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.
- (b) "Segregated facilities," as used in this clause, 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, 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.

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

A-20 TERMINATION OF CONTRACT

Termination for Convenience:

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

- a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- b) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
- c) reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- d) reasonable and substantiated expenses to the contractor directly attributable to Owner's termination action

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Default:

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with Owner termination of this contract due default of the Contractor.

A-21 PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/epawaste/conserve/tools/cpg/products/. Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A-22 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT:

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT:

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must verify each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>
2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A-23 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

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, including watchmen and guards, 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 clause, 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 clause, 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 clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner 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 clause.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor 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 clause.

A-24 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, 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 undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned 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 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.

A-25 BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide contractor written notice that describes the nature of the breach and corrective actions the contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the contractor must correct the breach. Owner may proceed with termination of the contract if the contractor fails to correct the breach by deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-26 CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. § 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

SECTION B – STATE TERMS AND CONDITIONS**B-01 NOT USED**

SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

Contractor shall obtain insurance of the types and in the amounts described below. The insurance shall be written by insurance companies and on forms acceptable to Owner.

Owner and Garver, LLC shall be included as an insured under the CGL, (using ISO Additional Insured Endorsement CG 20 10 11 85 or a substitute providing equivalent coverage), and under the commercial automobile liability (using ISO Additional Insured Endorsement CA 2048 or a substitute providing equivalent coverage), and commercial umbrella, if any. This insurance, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

C-01.1 Commercial General and Umbrella Liability Insurance: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance, with a limit of not less than \$5,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to the Project.

CGL insurance shall be written on ISO occurrence form CG 20 10 (11-85) (or a substitute combination of the following forms CG 20 10 (10-01) and CG 20 37 (10-01) providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury and liability assumed under an insured contract.

There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, underground property damage, or amending the contractual coverage in the ISO occurrence form.

CGL insurance shall be written with an ISO form CG 25 03 05 09 Designated Construction Project(s) General Aggregate Limit or a substitute form providing equivalent coverage.

C-01.2 Continuing CGL Coverage: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance, with a limit of not less than \$5,000,000 each occurrence for at least 3 years following substantial completion of the Work.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed Work equivalent to that provided under ISO form CG 00 01.

C-01.3 Owner's and Contractor's Protective Liability Insurance: Contractor shall maintain Owner's and Contractor's Protective Liability (OCP) insurance on behalf of Owner and Garver, LLC, as named insured, with a limit of \$1,000,000.

C-01.4 Railroad Protective Liability Insurance: Not applicable

C-01.5 Commercial Auto and Umbrella Liability Insurance: Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than \$1,000,000 each accident.

Such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).

Commercial auto coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

If the Contract Documents require Contractor to remove and haul hazardous waste from the Project site, or if the Project involves such similar environmental exposure, pollution liability coverage equivalent to that provided under the ISO Pollution Liability-Broadened Coverage for Covered Autos Endorsement (CA 99 48) shall be provided, and the Motor Carrier Act Endorsement (MCS 90) shall be attached.

C-01.6 Workers' Compensation Insurance: Contractor shall maintain workers' compensation and employer's liability insurance.

The employer's liability, and if necessary commercial umbrella, limits shall not be less than \$500,000 each accident for bodily injury by accident or \$500,000 each employee for bodily injury by disease.

If Contractor leases its employees, the alternate employer endorsement (WC 00 03 01 A) shall be attached showing Owner in the schedule as the alternate employer.

Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

Where applicable, Nonappropriated Fund Instrumentalities Act (NFIA) shall be attached to the policy. NFIA extends the coverage of the Longshore and Harbor Workers' Compensation Act to civilian employees working on United States military bases throughout the world who are not paid with funds appropriated by Congress. These employees, working in facilities operated for the comfort, contentment, and improvement of armed forces personnel, are instead compensated with funds generated from earnings of their facility.

Where applicable, Outer Continental Shelf Lands Act Endorsement shall be attached to the policy.

Where applicable, the Maritime Coverage Endorsement shall be attached to the policy.

If project is located in a state where workers compensation is secured via monopolistic state funds, include evidence of the "Stop Gap" endorsement to the general liability policy.

C-01.7 Property Insurance: If applicable, Contractor shall purchase and maintain property insurance for the Work. Such insurance shall be written in an amount at least equal to the initial contract sum as well as subsequent modifications of that sum. The insurance shall apply on a replacement cost basis. If the insurance obtained in compliance with this paragraph is builders risk insurance, coverage shall be written on a completed value form.

The property insurance as required above shall name as insureds the Owner, Contractor, and all subcontractors and sub-subcontractors on the Project.

C-01.8 Primary and Non-contributory: Contractor agrees that the insurance listed above, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

C-01.9 Waiver of Subrogation: Contractor waives all rights against the Owner and Garver, LLC and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability, commercial umbrella liability insurance, automobile liability insurance and workers compensation insurance maintained pursuant to paragraph C-01 of this agreement.

C-01.10 No Implied Waiver: Contractor shall furnish certifications matching the coverage requirements. Failure of Owner or Engineer to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Owner or Engineer to identify a deficiency from evidence that is provided shall not be construed as a waiver of the contractors obligations to furnish and maintain such insurance, or as a waiver to the enforcement of any of the provisions at a later date.

Any waiver of the contractor's obligation to furnish such certificate or maintain such evidence must be by written change order and signed by a Managing Member (Officer) of the Engineer and the Owner.

C-01.11 Cancellation, Non-Renewal, and/or Impairment Notification: The Contractor shall not cause any insurance policy to be cancelled or permit it to lapse and all insurance policies shall include an endorsement to the effect that the insurance policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance until notice has been mailed to the Owner and Engineer, stating the date when such cancellation or reduction shall be effective, which date shall not be less than (60) days after such notice.

The amount shown in the bid item for the Owner's Protective Insurance shall include that amount of additional premium required for obtaining Owner's and Engineer's Protective Liability insurance for the Owner and Garver, LLC. The Engineer has the right to request justification from the contractor for the full amount of the cost included under the items "Owner's Protective Insurance".

Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:

Alex Rupp
5000 Jerry Ware Drive
Beaumont, TX 77705
ARupp@co.Jefferson.tx.us

Garver:

Jason Frank, PE
Garver, LLC
12141 Wickchester
Suite 200
Houston, TX 77079
JEFrank@GarverUSA.com

C-01.12 Sample Certificate of Liability Insurance:

ACORD®		CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY) (must be dated)		
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 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 Agency Name Agency Address www.stephens.com		CONTACT NAME: Agency contact PHONE (A/C, No, Ext): Agency ph# FAX (A/C, No): E-MAIL ADDRESS: Agency contact email address INSURER(S) AFFORDING COVERAGE INSURER A: Carrier Name (AM Best Rating) INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:				
INSURED Named Insured on the policies		NAIC #				
COVERAGES		CERTIFICATE NUMBER:		REVISION NUMBER:		
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.						
INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVO	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☐ LOC	X X	XXXXXXXXXX			EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 5,000,000 PRODUCTS - COM/OP AGG \$ 5,000,000
	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ ALL OWNED AUTOS ☒ HIRED AUTOS ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS	X X	XXXXXXXXXX			COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	☒ UMBRELLA LIAB ☐ EXCESS LIAB ☒ OCCUR ☐ CLAIMS-MADE DED RETENTION \$ XXXXX	X X	XXXXXXXXXX			EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N/A	X	XXXXXXXXXX		☒ WC STATUTORY LIMITS ☐ OTHER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
			XXXXXXXXXX			
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)						
Owner & Garver, LLC shall be included as an Additional Insured by endorsement #CG2010(11/85) on the General Liability and #CA2048 on the Automobile and Umbrella or substitute endorsement providing equivalent coverage. Coverage shall be Primary and non-contributory with respect to any other insurance or self-insurance programs afforded to the Owner and Garver LLC. Waiver of Subrogation applies in favor of the Owner and Garver LLC on all policies. 60 day notice will be provided to the Owner and Garver LLC in the event of cancellation, non-renewal and/or impairment of the Contractor's policies.						
CERTIFICATE HOLDER Owner and Garver LLC				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 (must be signed by the Contractor's Insurance Agent)		

© 1988-2010 ACORD CORPORATION. All rights reserved.

ACORD 25 (2010/05)

The ACORD name and logo are registered marks of ACORD

CRRT 001: 15475474 Kathy Jones 2/11/2013 10:58:41 AM Page 3 of 1

C-02 UTILITIES

All work in this contract shall be in accordance with the Texas Underground Facilities Damage Prevention Act. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities, structures, equipment, or improvements crossed by or adjacent to his construction operations. Where existing utilities, service lines, structures, equipment, etc. are cut, broken, or damaged, the Contractor shall replace or repair immediately these items with the same type of original material and construction or better, at his own expense to the satisfaction of the Owner and the Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects and any expenses incurred by the Owner shall be withheld from the Contractor's payments.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Dr. Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (last Monday in May); Independence Day (July 4); Labor Day (1st Monday in September); Columbus Day (2nd Monday in October); Thanksgiving Day (4th Thursday in November); Day after Thanksgiving (Friday following Thanksgiving); Christmas Eve (December 24); and Christmas Day (December 25). If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-06 for more information.

C-04 CLEAN UP

From time to time, the Contractor shall clean up the site, including any work areas at the airport, in order that the site presents a neat appearance and the progress of the work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary plant, equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

C-05 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-06 LIQUIDATED DAMAGES FOR DELAY

The number of calendar days allowed for completion of the project is stipulated in the Proposal and in the Contract and shall be known as the Contract Time. The Contractor agrees that time is a critical element for this Contract. Loss will accrue to the Owner due to delayed completion of the work; and the cost to the Owner of the administration of the Contract, including engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. The Contractor agrees that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for, the Owner may withhold, permanently, from the Contractor's total compensation, the sum of **One Thousand Five Hundred** Dollars (**\$1500.00**) as stipulated damages for each day of such delay. Should the amount otherwise due the Contractor be less than the amount of such ascertained and liquidated damages, the Contractor and his Surety shall be liable to the Owner for such deficiency.

It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first; and shall include all Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer for suspension of the prosecution of the work, due to the fault of the Contractor, shall be counted as elapsed contract time, and shall not be considered for an extension of time.

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.
2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. The days included in the contract time for Normal Weather-Related Events and holidays are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events	Holidays
January	9	1
February	5	1
March	6	0
April	8	1
May	8	1
June	12	0
July	10	1
August	13	0
September	9	1
October	8	0
November	6	3
December	8	2

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy,

an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

- a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.
- b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-07 CARE OF WORK

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, equipment, etc., and he shall at his own expense completely repair any damage thereto caused by his operations, to the satisfaction of the Owner and Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects and any expenses incurred by the Owner shall be withheld from the Contractor's payments.

C-08 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in these specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

C-09 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground

existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-10 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-11 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements embraced 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 there, which shall appear within a period of 12 months from the date of final acceptance of the work. The Contractor will be responsible for all costs associated with construction observation and oversight for the repair work. The Owner will give notice of defective materials and work with reasonable promptness. In the event repair work is required, the Contractor shall remedy any defects and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of the acceptance of the repair work.

C-12 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-13 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures, including notifying the Engineer whether electronic submittals or paper submittals will be provided for all submittal packages in the project. Mixing of package types will not be allowed. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.
2. Submit six (6) paper submittal copies via mail or other courier service to the Engineer's designated representative.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file or hard cover bound book, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall be responsible for payment of any subsequent submittal reviews beyond the second iteration of a specific item as indicated by the construction submittal log. In this event, the Owner's representative shall conduct the submittal review and payment for the submittal review shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional submittal reviews at the Owner's contract rate.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

The Contractor will implement, in conjunction with the Engineer and LRNA Manager of Construction, project-specific procedures/policies for construction management services during construction to assist in obtaining completed Projects in accordance with the purpose and intent of the construction documents including, but not limited to the following:

1. Use web based Construction Management Software (EADOC) provided to the Contractor. Access to this system will be provided at no cost to the Contractor by LRNA.
2. Ensure that ALL Subcontractors, and any other project participants use the EADOC Construction Management Software provided by LRNA. Access to this system will be provided at no cost to each by LRNA.

C-14 **STORMWATER POLLUTION PREVENTION PLAN**

Refer to Technical Specification C-105.

C-15 TEST BORINGS/SUBSURFACE INFORMATION

Soil characteristics provided in any soil reports, or as shown on boring logs, are representative only at the location of the sample taken, and neither the Owner, Engineer nor Engineer's consultants will be responsible for variations in the soil characteristics at other locations. Any subsurface information or geotechnical reports made available to Contractor was obtained and intended for the Owner's design and estimating purposes only. Such reports and drawings are not Contract Documents.

The Contractor may not rely upon or make any claim against Owner, Engineer, or Engineer's Consultants with respect to (1) the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the Contractor and safety precautions and programs incident thereto, (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, or (3) any Contractor interpretation or other conclusion drawn from any data, interpretations, opinions, or information.

C-16 WAGE RATES

The Davis Bacon minimum wage rates for this project are applicable and included in Section M of this Contract:

END OF SPECIAL PROVISIONS

RELEASE OF LIEN

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

project.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My Commission Expires:

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on the

project have been fully satisfied.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My Commission Expires:

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated: _____

Surety Company: _____

By: _____

Resident Agent, State of Texas

TECHNICAL SPECIFICATIONS

ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)DESCRIPTION

101-1.1 The Contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The Contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval.

Page Intentionally Left Blank

Contractor Safety Plan Compliance Documents

Owner Name: Jefferson County

Airport: Jack Brooks Regional Airport

Project Description: Taxiway A Rehabilitation

Contractor: _____

Each item listed below corresponds to a specific section of the approved CSPP. The Contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principle or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Correspondence:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety Plan Compliance Document.

Owner:	
Contact: Alex Rupp, Airport Manager	Phone: 409-719-4900
Engineer:	
Project Manager: Jason Frank	Phone: 713-395-4282
Project Engineer: Ken Rutabana	Phone: 214-619-9016
Construction Observer: TBD	Phone:
Materials Testing: TBD	Phone:
Contractor:	
Project Manager:	Phone:
Superintendent:	Phone:
Subcontractors:	Phone:

Yes _____ No _____

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in

accordance with Section 4 "Protection of Navigational Aids (NAVAIDS)" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 "Contractor Access" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 "Wildlife Management" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 "Foreign Object Debris (FOD) Management" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 "Hazardous Materials (HAZMAT) Management" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 "Notification of Construction Activities" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 "Inspection Requirements" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 "Underground Utilities" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 "Penalties" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 "Special Conditions" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance

with 14 "Runway and Taxiway Visual Aids" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 "Marking and Signs for Access Routes" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 "Hazard Marking and Lighting" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

17. **Section 17 – Work Zone Lighting for Nighttime Construction:** This project shall be completed in accordance with Section 17 "Work Zone Lighting for Nighttime Construction" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

18. **Section 18 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 18 "Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

19. **Section 19 – Other Limitations on Construction:** This project shall be completed in accordance with Section 19 "Other Limitations on Construction" of the approved Construction Safety Plan Compliance Document.

Yes _____ No _____

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: _____

Print Name and Title of Contractor's Representative

END OF ITEM SS-101

Page Intentionally Left Blank

ITEM SS-110 STANDARD SPECIFICATIONS

GENERAL

110-1.1 The standard specifications adopted by the Texas Department of Transportation (November 1, 2014) are bound in a book titled "Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges". These specifications are referred to herein as "Standard Specifications." The latest edition shall apply. A copy of these "Standard Specifications" may be purchased or downloaded by going to the Texas Department of Transportation's web page, <http://www.txdot.gov>, contacting Support Services Division, or calling the Texas Department of Transportation's Support Services Division. For additional information on specifications or information on Departmental Materials Specifications (DMS), Material Producer Lists (MPL), Test Procedures, Material Inspection Guide, and other materials information, go to <http://www.txdot.gov>.

INCORPORATION AND MODIFICATION

110-2.1 Certain parts of the Standard Specifications are appropriate for inclusion in these Technical Specifications. Such parts are incorporated herein by reference to the proper section or paragraph number. The individual specification numbers noted herein may be different from those in the latest edition of the "Standard Specifications." The most current specification number shall apply. Each such referenced part shall be considered to be a part of these Contract Documents as though copied herein in full.

110-2.2 Certain referenced parts of the Standard Specifications are modified in the Specifications that follow. In case of conflict between the Standard Specifications and the Specifications that follow, the Specifications that follow shall govern.

110-2.3 Individual material test numbers change from time to time. Use the latest applicable test.

110-2.4 Reference in the Standard Specifications to the "Department" is herein changed to the "Owner".

END OF ITEM SS-110

Page Intentionally Left Blank

ITEM SS-120 CONSTRUCTION SAFETY AND SECURITY

DESCRIPTION

120-1.1 This item covers safety and security for construction of the proposed improvements.

The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Construction Safety and Security."

The item "Construction Safety and Security" shall include:

1. Lighted Barricades, Closed Taxiway Markers, and Lighted Runway Markers
2. Temporary Relocated Threshold
3. Temporary Signs
4. Airport Security Requirements
5. Airport Safety Requirements

CONSTRUCTION METHODS

120-2.1 LIGHTED BARRICADES, CLOSED TAXIWAY MARKERS, AND LIGHTED RUNWAY MARKERS.

The Contractor shall furnish, install, maintain, and remove closed taxiway markers, lighted runway markers, and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway markers shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted runway markers and barricades shall be constructed and installed as shown on the plans. All lighted barricades, closed taxiway markers, and lighted runway markers shall be constructed in accordance with AC 150/5370-2G Operational Safety on Airports During Construction.

All work involved in the furnishing, installation, maintenance, fueling, and removal of lighted barricades, barrels, closed taxiway markers, and lighted runway markers will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.2 TEMPORARY RELOCATED THRESHOLD. Before commencing work within the air operations areas the Contractor shall temporarily relocate the Runway 18-36 thresholds as shown in the Plans. The Contractor shall furnish, install and maintain the temporary threshold in accordance with details on the Plans. The Contractor shall accomplish the relocation of the threshold within one 8-hour work shift. The Contractor shall remove the temporary threshold when work is complete within the safety area, and as directed by the sequence of construction in the Plans and by the Engineer.

Before relocating the threshold, the Contractor shall perform a Megger test from the regulator serving the runway in the presence of the Owner/Engineer. Data from the test shall be reported in writing to the Owner/Engineer. The Contractor shall determine the appropriate method of disabling the lights on the closed portion of the runway and shall verify the circuit prior to re-energizing. Strict adherence to OSHA Lockout/Tagout procedures is mandatory. The Contractor will be held responsible for any damage to the lighting system caused by his operations. Following restoration of the lighting system to its original/final configuration, the Megger test procedure shall be repeated by the Contractor in the presence of the Owner/Engineer, and the results of the test reported in writing to the Owner/Engineer.

All work involved in the furnishing, fabrication, installation, maintenance, and removal of the temporary relocated threshold, unless otherwise noted below, will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

Pavement markings for the temporary relocated threshold shall be paid for under P-620.

Temporary relocated threshold lights and any electrical connections required to maintain the temporary relocated threshold shall be considered part of SS-310 "Temporary Airfield Lighting."

120-2.3 TEMPORARY SIGNS. The Contractor shall furnish, install, maintain, and remove temporary signs in accordance with details on the plans and as directed by the Engineer. All temporary signs shall be constructed in accordance with AC 150/5370-2 Operational Safety on Airports During Construction, latest edition. All work involved in the furnishing, installation, maintenance, and removal of temporary signs will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.4 AIRPORT SECURITY REQUIREMENTS. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.5 AIRPORT SAFETY REQUIREMENTS. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

MEASUREMENT AND PAYMENT

120-3.1 Construction safety and security will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Construction Safety and Security", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-120-3.1	Construction Safety and Security - per Lump Sum

END OF ITEM SS-120

ITEM SS-130 TRENCH AND EXCAVATION SAFETY SYSTEMS

DESCRIPTION

130-1.1 This section covers trench and excavation safety system required for constructing improvements that necessitate open excavations on the project. All work under this item shall be in accordance with the current edition of the "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System, 29 CFR 1926, Subpart "P", a copy of which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

NOTIFICATIONS REQUIRED

130-2.1 The Contractor, prior to beginning any excavation, shall notify the State Department of Labor (Safety Division) that work is commencing on a project with excavations greater than five feet.

The Contractor shall notify all Utility Companies and Owners in accordance with OSHA Administration 29 CFR 1926.651(b)(2) for the purpose of locating utilities and underground installations.

EXISTING STRUCTURES AND UTILITIES

130-3.1 Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities or other installation, the Contractor shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such structure or utility.

The Contractor may elect to remove and replace or relocate such structures or utilities with the written approval of the owner of the structure or utility and the Project Owner.

MEASUREMENT AND PAYMENT

130-4.1 The work required by this item will be paid for at the lump sum price bid for "Trench and Excavation Safety Systems", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work. After award of the contract, the Contractor shall submit to the Engineer a breakdown of cost for work involved in the lump sum price bid for "Trench and Excavation Safety Systems" and shall, with each periodic payment request, submit a certification by the Contractor's "competent person" as defined in Subpart "P" 1926.650(b) that the Contractor has complied with the provisions of "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System", 29 CFR 1926 Subpart P for work for which payment is requested.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-130-4.1 Trench and Excavation Safety Systems - per Lump Sum

END OF ITEM SS-130

Page Intentionally Left Blank

ITEM SS-300 BASIC ELECTRICAL REQUIREMENTS

DESCRIPTION

300-1.1 This item shall consist of furnishing and installing complete electrical systems as defined in the plans and in these specifications. The work includes the installation, connection and testing of new electrical systems, equipment, and all required appurtenances to construct and demonstrate proper operation of the completed electrical systems.

300-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the RPR any conflict between plans and specifications that he observes or of which he is made aware.

300-1.3 This work shall consist of lockout/tagout and constant current regulator calibration procedures at the airport electrical vault in accordance with the design and details shown in the plans and in compliance with these specification documents.

EQUIPMENT AND MATERIALS

300-2.1 STANDARDS.

- a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
 - (1) NFPA 70 - National Electrical Code.
 - (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
 - (3) NFPA 101 - Life Safety Code.
 - (4) Internet Website: <http://www.nfpa.org>
- b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
 - (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
 - (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
 - (3) Internet Website: <http://www.gpoaccess.gov/cfr/index.html>
- c. ANSI/IEEE C2 - National Electrical Safety Code.
- d. NECA 1 – Standard for Good Workmanship in Electrical Construction.
- e. Applicable Federal, State and Local Electrical Codes.
- f. Applicable Federal, State and Local Energy Codes.
- g. Applicable Federal, State and Local Building Codes.
- h. Applicable Federal, State and Local Fire Codes.
- i. Applicable City Electrical Code.
- j. Applicable City Ordinances pertaining to electrical work.
- k. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.

Contractor shall utilize the most current editions of standards, which are current at time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

300-2.2 GENERAL.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified and listed under Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, current version on the date that the submittals are received by the RPR. When an equipment advisory circular is being updated and two equipment lists for the same specific equipment are listed in the current certified equipment AC 150/5345-53 addendum, only that equipment qualified to the latest advisory circular will be acceptable.

b. Airport lighting equipment and materials shall also meet the Buy American Preference requirements in 49 USC 50101 and the Aviation Safety and Capacity Expansion Act. The equipment shall be approved and listed on the FAA "Equipment Meeting Buy American Requirements" list located at www.faa.gov/airports/aip/procurement/federal_contract_provisions/, current version on the date that the submittals are received by the RPR, or the Contractor may submit a signed formal letter from the manufacturer that clearly lists the specific equipment, model number, location where it is manufactured, and statement certifying that the equipment and/or materials meet the Buy American Preference requirements.

c. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR. All equipment and materials shall be new and meet applicable manufacturer's standards. All electrical components and products shall be tested and listed by an OSHA accepted, nationally recognized testing laboratory (NRTL) to conform to the standards indicated in these contract documents and to the industry standards required in the NEC, NEMA, IEEE, UL, and applicable FAA advisory circulars.

d. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

e. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise, and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

f. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the Contract Documents plans and specifications. The RPR reserves the right to reject all equipment, materials, or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

g. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

- (1) All LED light fixtures, except for obstruction lighting, shall be warranted by the manufacturer for a minimum of 4 years after date of installation, final acceptance testing by the RPR, and Owner's beneficial use of the equipment, inclusive of all electronics. Refer to FAA Engineering Brief No. 67D for additional requirements.

h. After approval of submitted equipment, the Contractor shall supply the following Operation and Maintenance Manual documentation to the Owner. Two (2) complete sets of documentation shall be supplied for each model of equipment. The documentation shall be securely bound in heavy-duty 3-ring binders. The information for each piece of equipment shall be indexed using typewritten label tabs. The spine of each binder shall have a typewritten label, which indicates the included equipment types. The documentation shall include:

- (1) Approved Submittals and Shop Drawings
- (2) Cable Splicer Qualifications, Type and Voltage
- (3) State Contractors License with Electrical Classification
- (4) Master, Journeyman and Apprentice Electrician Licenses and Certifications
- (5) Lockout/Tagout Program
- (6) Installation Manuals
- (7) Operation Manuals
- (8) Maintenance Manuals
- (9) Parts Lists, including recommended spare parts. Recommended spare parts shall be furnished with the respective equipment.
- (10) Ground Rod Impedance Test Reports
- (11) Insulation Resistance Test Reports
- (12) Regulator Load and Calibration Reports for testing, checking, and adjusting all regulators in the electrical vault

i. After approval of the O&M Manuals, the Contractor shall provide three (3) complete electronic copies of all documentation in Adobe PDF file format on CD-R (non-rewriteable) discs storage media. The electronic files shall contain searchable text and include a hyperlink index for ease in locating information with the PDF file.

j. All requirements herein Item SS-300 shall be applicable to all referenced sections in these contract documents and applicable to all sections, which reference Item SS-300.

k. The Contractor is the single source of responsibility for the installation and integration of the airport's lighting, power, and control systems. New airport lighting equipment and materials shall be fully compatible with all other new and existing airport lighting equipment and systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the RPR and compatible with the remainder of the airport lighting system.

300-2.3 OPERATION AND MAINTENANCE DATA.

Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment. Provide bound hard copies and electronic copies as noted in section 300-2.2.

a. Certificate of Substantial Completion, Release and Contractor's Affidavit, executed copies.

b. Final approved equipment submittals, including product data sheets and shop drawings, clearly labeled.

c. Installation manuals: Description of function, installation and calibration manuals, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

d. Operations manuals: Manufacturer's printed operating instructions and procedures to include start-up, break-in, routine, and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions; and all programming and equipment settings.

e. Maintenance manuals: Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.

f. Service manuals: Servicing instructions and lubrication charts and schedules, including the names and telephone numbers of personnel to contact for both routine periodic and warranty service for equipment and materials provided under this Specification.

g. Final test reports, clearly labeled, including but not limited to, insulation resistance test reports, ground rod impedance test reports, cable pulling tension values logs, and equipment certification tests.

h. Final certified calibration sheets for all equipment and instruments.

i. Preventive maintenance programs for the visual aid facilities and equipment installed in this project, including the applicable equipment sections within Chapter 5 "Preventive Maintenance" from AC 150/5340-26 (latest edition) "Maintenance of Airport Visual Aid Facilities".

300-2.4 WIRE.

Unless otherwise indicated, conductors No. 10 AWG and smaller shall be solid, and conductors No. 8 AWG and larger shall be stranded.

For electrical work of 600 volts or less, all conductors, terminations, terminal blocks, lugs, connectors, devices, and equipment shall be listed, marked, and rated 75 degrees C minimum unless otherwise noted.

Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway. Pull ropes and pull wires shall have sufficient tensile strength for the cable(s) to be pulled and installed. Damaged cable or raceway shall be replaced at no additional cost to the Owner. Calculate and do not exceed the maximum allowable pulling tension or maximum allowable sidewall bearing pressure for all conductors and cables.

Install pull wires in empty raceways. Use a polypropylene plastic line with not less than 200-pound tensile strength. Secure and leave at least 12 inches of slack at each end of pull wire to prevent it from slipping back into the conduit. Cap spare raceways with removable tapered plugs, designed for this purpose.

Colorable L-824 cable in solid non-fading colors shall not be used for permanent series circuit identification.

300-2.5 TAPE. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88, respectively, as manufactured by the Minnesota Mining and Manufacturing Company, or an approved equal.

The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Copies of the National Electrical Code may be obtained from the National Fire Protection Associations, Inc., One Batterymarch Park, Quincy, Massachusetts 02269.

300-2.6 CONCRETE. Concrete shall conform to Item P-610, Concrete for Miscellaneous Structures, with a minimum 28-day compressive strength of 4000 PSI (unless otherwise noted) using 1-inch (25-mm) maximum size coarse aggregate, as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

Flowable backfill material may only be used where specifically indicated in the Plan details.

CONSTRUCTION METHODS

300-3.1 LOCKOUT/TAGOUT PROGRAM. The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the RPR. The document shall clearly

identify the on-site master electricians and their contact information, including office and mobile telephone numbers.

The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.

Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.

300-3.2 SAFETY PROGRAM. The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.

Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

All work involved in the preparation and implementation of the safety program will not be measured for separate payment but will be considered subsidiary to the lockout/tagout bid item.

300-3.3 PRECONSTRUCTION MEETING.

A preconstruction meeting will be held with the Airport, FAA, RPR and Contractor, prior to any work. Complete submittals and shop drawings will be submitted at this time for review. An equipment procurement schedule will be provided by the Contractor with an anticipated field construction start date. The progress construction schedule will be submitted for review each week and shall outline all installation, testing and demolition work.

300-3.4 GENERAL.

The Contractor shall be responsible for coordinating all electrical work with the Utility. The Contractor shall provide temporary service conductors and raceway system. The Contractor shall then provide and connect permanent service conductors and raceway system after the completion.

All secondary conductors and controls, signaling and lighting shown in or on buildings are included in this project. Electrical service shall be extended from the service equipment as indicated.

In general, the various electrical equipment and material to be installed by the various trades under this specification shall be run as indicated, as specified herein, as required by particular conditions at the site, and as required to conform to the generally accepted standards to complete the work in a neat and satisfactory manner. The following is a general outline concerning the running of various systems and is to be expected where the drawings or conditions at the buildings necessitate deviating from these standards.

The drawings and specifications are complementary; any work required by one, but not by the other, shall be performed as though required by both.

The Contractor shall maintain copies of all equipment installation manuals on site during construction.

All conduits shall be run exposed in the equipment rooms or run concealed as indicated.

The construction details of the building are illustrated on the drawings. Each Contractor shall thoroughly acquaint himself with the details before submitting his bid as no allowances will be made because of the Contractor's unfamiliarity with these details.

The electrical plans do not give exact locations, etc., and do not show all the offsets, control lines, junction boxes, and other installation details. Each Contractor shall carefully lay out his work at the site to conform to the job conditions, to conform to details of installation supplied by the manufacturers of the equipment to be installed, and thereby to provide complete operating systems.

The electrical plans show diagrammatically the locations of the various electrical outlets and apparatus and the method of circulating and controlling them. Exact locations of these outlets and apparatus shall be determined by reference to the general plans and to all detail drawings, etc., by measurements at the buildings, and in cooperation with other crafts, and in all cases shall be subject to the approval of the RPR. The RPR reserves the right to make any reasonable change in location of any outlet or apparatus before installation, without additional cost to the Owner.

These Specifications and the accompanying Drawings are intended to cover systems which will not interfere with the structure of the buildings, which will fit into the several available spaces, and which will insure complete and satisfactory systems. Each bidder shall be responsible for the proper fitting of his material and apparatus into the buildings.

Should the particular equipment which any bidder proposes to install require other space conditions than those indicated on the Drawings, he shall arrange for such space with the RPR before submitting his bid. Should changes become necessary because of failure to comply with this clause, the Contractor shall make such changes at the Contractor's expense.

Should the particular equipment which any bidder proposes to install require other installation methods, such as larger light base junction structures, etc., he shall include all such equipment and appurtenances in his bid. Should changes become necessary because of failure to coordinate equipment requirements and comply with this clause, the Contractor shall make such changes at the Contractor's expense.

The Contractor shall be responsible to see that each party furnishes electrical equipment which meets the electrical requirements specified herein and that all systems work together to produce the specified operation.

Where two or more units of the same kind or class of equipment are required, these shall be products of a single manufacturer; however, the component parts need not be the products of one manufacturer.

Each Contractor shall submit working scale drawings of all his apparatus and equipment which in any way varies from these Specifications and Plans, which shall be checked by the RPR and approved before the work is started, and interferences with the structural conditions shall be corrected by the Contractor before the work proceeds.

Electrical equipment, such as switchgear, switchboards, panelboards, load centers and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

All electrical equipment shall be securely mounted as indicated in the plans, as required by the contract specifications, as required by guidelines and codes, and as required by the manufacturer using hardware compliant with the environmental conditions.

Interior components of electrical enclosures shall be securely mounted using appropriate hardware within the enclosure. Adhesives or adhesive tapes/strips are not allowed and are prohibited.

Electrical components, including but not limited to, relays, circuit boards, electronics, etc., shall be installed within approved enclosures.

The Contractor shall keep ends of conduits, including those extending through roofs, equipment and fixtures covered or closed with caps or plugs to prevent foreign material from entering during construction.

Where portions of raceways are known to be subjected to different temperatures, where condensation is a problem, and where passing from interior to exterior of a building, the portion of raceway or sleeve shall be filled with an approved material to prevent the circulation of air, prevent condensation, and prevent moisture entry. Sealing of raceways shall not occur until after the conductors and cables have been installed, tested, and accepted by the RPR.

The Contractor shall install any temporary lines and connections required to maintain electric services and safely remove and dispose of them when complete.

All temporary wiring shall conform to OSHA standards. Remove temporary services when work is complete. Any damage to electrical equipment caused by the Contractor shall be repaired at no cost to the Owner.

All non-current carrying parts and neutrals shall be grounded as indicated on the Drawings or as required by the Codes.

White and/or gray outer finish conductors may only be used as grounded conductors or neutral conductors in accordance with NEC.

Install insulated green equipment grounding conductors with all feeder and branch circuits.

Provide separate insulated equipment grounding conductors from grounding system to each electrical equipment, telecommunication equipment, other special electrical system equipment, and appurtenance item location in accordance with NFPA 70 and other applicable standard requirements.

The bidder shall inspect the site, thoroughly acquaint himself with conditions to be met and work to be accomplished. Failure to comply with this shall not constitute grounds for any additional payments.

Where electrical equipment is installed that causes electrical noise interference with other systems either existing or installed under this contract, the offending equipment shall be equipped with isolating transformers, filters, reactors, shielding, or any other means as required for the satisfactory suppression of the interferences, as determined by the RPR.

All junction boxes, expansion joints, flexible connections, instruments and similar items requiring servicing or repairs shall be installed in an accessible location.

All salvage and equipment removed by the work shall remain the property of the Owner. Material removed from the project shall be stored on the project site where and as directed. Debris shall be removed from the job site and disposed of by the Contractor.

The Contractor shall always maintain his work area clean and orderly. Debris shall be removed promptly. The electrical system shall be thoroughly cleaned inside and outside of all enclosures to remove all metal shavings or other work debris, dust, concrete splatter, plaster, paint, and lint.

The Contractor shall do all excavating and backfilling made necessary by electrical work and shall remove all surplus or supply any earth required to establish the proper finished grade.

The Contractor shall do all cutting and patching made necessary by electrical work, but in no case shall he cut through or into any structural member without written permission of the RPR.

All steel conduits, supports, channels, fittings, nuts, bolts, etc. shall be galvanized, corrosion-resistant type unless otherwise noted.

An approved anti-seize compound shall be used on all threads to prevent equipment and thread damage.

Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes to be properly sealed, fire proofed and waterproofed. Any water leaks arising from project construction will be immediately corrected to the satisfaction of the Owner and the RPR.

300-3.5 POWER SUPPLY EQUIPMENT. Electrical equipment, such as switchgear, switchboards, panelboards, load centers, and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

If shown in the plans, the power supply equipment shall be set on concrete housekeeping pads to provide a minimum space of 3-1/2 inches between the equipment and the floor. All equipment shall be secured to the floor or wall in accordance with the manufacturer's recommendations and these contract document requirements.

300-3.6 DUCT AND CONDUIT. Conduits shall be galvanized rigid steel unless otherwise indicated or specified. Refer to one-line diagram conduit notes for specific requirements.

Conduit runs shall be one trade size continuously with no reducers allowed. Changing of conduit size is only permitted at manholes, handholes, and boxes and conduit bodies used as outlet, device, junction, or pull boxes, including approved, listed fittings with removable covers.

Use an approved, listed adapter/coupling to convert to other types of conduit. Reducer couplings are not allowed.

For underground service entrance, feeder and branch circuit raceways, offsets and bends over 30 degrees and elbows in Schedule 40 PVC conduit runs shall be Schedule 80 PVC conduit. Underground service entrance PVC conduits shall be concrete encased unless otherwise noted. Underground PVC conduits shall be concrete encased under driveways, roadways, parking lots and other paved areas.

Non-encased conduits shall convert to concrete encased ducts under all paved areas and shall extend at least 3 feet beyond the edges of the pavement unless otherwise noted.

The Contractor shall provide a staked centerline or offset for the duct and manhole system - utilizing the drawings and a site inspection of the existing grounds, grades, and utility crossings. The Owner and RPR shall approve the staking plan that shall be indicated on a drawing submitted for approval before starting any excavation for the ducts. The staking plan shall indicate the proposed location, elevation, and dimensions of manholes and handholes. The RPR reserves the right to adjust duct, manhole and handhole locations and elevations before installation at no additional cost to the Owner.

The bottom surface of trenches shall be essentially smooth and free from coarse aggregate.

Install grounding-and-bonding type bushings and bonding jumpers on all service entrance conduits and on all feeder and branch circuit conduits.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

When EMT is allowed, utilize only steel compression fittings. Die-cast and set-screw fittings shall not be used.

Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing lock nuts shall not be used.

Grounding continuity to rigid metal conduit shall be accomplished by grounding bushings/adapters with lugs for connection to grounding counterpoise and/or grounding electrode conductor as defined by NEC.

All exposed wiring shall be run in not less than 1/2 inch (12 mm) galvanized rigid steel conduit. All conduits shall be installed to provide for drainage. Conduit shall be attached to wooden structures with galvanized pipe straps and fastened with galvanized wood screws not less than No. 8 nor less than 1-1/4 inches (31 mm) long. There shall be at least two fastenings for each 10-foot (3 m) length.

Existing ducts may require clearing before use. It is the responsibility of the Contractor to locate the existing ducts, identify empty or partially empty conduits and clear the conduits as required. Where new cable is to be installed in existing duct, the full length of the duct shall be cleared of debris by mechanical means before the installation of the new cable. Acceptable methods of clearing existing ducts include "hydro-jetting" and "roto-rooting." All existing cables in each re-used duct shall be replaced for the length of the duct and properly spliced in a method approved by the RPR. Clearing of existing duct banks or conduits is incidental to the cable pay item.

Dedicated ground rods shall be installed and exothermically welded to the counterpoise wire at each end of a duct bank crossing under pavement.

For concrete markers, the impression of letters shall be done in a manner, approved by the RPR, to affect a neat, professional appearance. The letters shall be stenciled neatly. After placement, all markers shall be given one coat of high-visibility aviation orange paint, as approved by the RPR.

Existing concrete markers or survey pins for runway thresholds, duct/conduit/cable/splice markings, utility line markings, taxiway points of tangency markings, or other similar items shall be removed and reinstalled or replaced, depending on the project work requirements, as required by a registered professional surveyor to the satisfaction of the Owner and the RPR.

300-3.7 JUNCTION BOXES.

Junction cans shall have both internal and external ground lugs. Size (diameter) and depth shall be as specified in the plans.

Galvanized cans shall have an external ground lug for mechanical connection/bolting ground clamps bonding.

300-3.8 BACKFILL, COMPACTION, AND RESTORATION. Refer to the backfill, compaction and restoration requirements within Item P-152 where other compaction requirements are specified (under pavements, embankments, etc.)

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the RPR or Construction Observer. The Contractor shall ensure all trenches are inspected prior to being covered and prior to encasement. Any uninspected trenches which are prematurely covered shall be exposed for inspection at the RPR and Owner's convenience at no additional cost to the Owner. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

All concrete/asphalt pavement removal and repair work shall be installed as separate pay items in accordance with Specification P-101 Preparation/Removal of Existing Pavements.

The subgrade below the removed pavement shall be compacted to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D2922. Subgrade preparation will not be measured for separate payment, but will be considered subsidiary to Specification P-101 Preparation/Removal of Existing Pavements.

300-3.9 CABLE AND UTILITY COORDINATION. The existing and the proposed locations of lighting cable are approximate. The Contractor shall be responsible for field locating and identifying the existing lighting circuits to determine their exact routing. The Contractor shall also be responsible for maintaining the lighting systems in a working condition until the new lighting circuits have been installed and tested. The Contractor shall proactively and expeditiously accomplish this cable identification work prior to performing any modifications to the lighting circuits. Coordinate identification work with the Owner and RPR and make all corrections, additions, etc. on the as-built drawings.

Underground cable and utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these cables and utilities on the Plans. All existing cable and utilities may not be shown on the Plans and the location of the cables and utilities shown may vary from the location shown on the Plans. Prior to beginning of any type of excavation, the Contractor shall contact the utilities, the airport maintenance staff, FAA field personnel and other organizations as required and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the cable and utility location markings until they are no longer required.

The Contractor shall replace or repair any underground cable or utility that has been damaged by the Contractor during excavation to the satisfaction of the owner of the cable or utility at no additional cost to the Owner.

The Contractor shall be responsible for all coordination work associated with existing and new utilities, their marking, their identification, proposed outages/shutoffs, connections, cutovers, etc.

300-3.10 WIRING. The Contractor shall furnish all labor and materials and shall make complete electrical connections in accordance with the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Provide color-coding for phase identification.

Colors for 240/120V Circuits:

- a. Phase A: Black
- b. Phase B: Red
- c. Neutral: White

Colors for 208Y/120V Circuits:

- a. Phase A: Black
- b. Phase B: Red
- c. Phase C: Blue
- d. Neutral: White

Colors for 480Y/277V Circuits:

- a. Phase A: Brown
- b. Phase B: Orange
- c. Phase C: Yellow
- d. Neutral: Gray

All new electrical cable shall be marked using color-coded plastic electrical tape, which is specifically designed for application on polyethylene-jacketed cable. The tape shall be applied as detailed on the Plans. Marking tape shall be Scotch 35 Vinyl Plastic tape or approved equal.

300-3.11 MARKING AND LABELING. Properly identify all electrical equipment.

Wire/Cable Designation Tape Markers:

a. Indoor Dry Locations: UL Recognized Materials, vinyl or vinyl-cloth, self-adhesive, wraparound, self-laminating, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-427 with thermal transfer print type or approved equal.

b. Outdoor Locations and Indoor Wet and Damp Locations: White polyolefin, non-adhesive, full circle, heat-shrinkable sleeve, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-342 with thermal transfer print type or approved equal.

Properly identify all electrical equipment, including but not limited to the following:

- a. Switchgear, switchboards, and control panels.
- b. Main distribution panel and individual devices within it.
- c. Panelboards and individual devices within it.
- d. Safety switches and disconnects.
- e. Contactors and lighting control center, including all branch circuits.
- f. Individually mounted circuit breakers.
- g. Starters and relays.
- h. Transformers.
- i. Generators and automatic transfer switches.

Use permanently attached black phenolic plates with 3/8" white engraved lettering on the face of each, attached with minimum two sheet metal screws. Starters and relays connected under this Specification shall be identified whether furnished under this Specification or under other Specifications of this contract. Plates shall be indoor or outdoor rated as required by installation location.

Panelboard identification plates shall indicate panel by identification name, voltage system, ampacity rating and type, AIC rating, and feeder source description.

Identify each receptacle, light switch, junction box, etc. with panelboard identification and circuit number. For all wiring device covers, use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

Identify fire alarm junction boxes with red covers and mechanical control junction boxes with blue covers.

Install all identification as required by current adopted editions of the NFPA 70 - National Electrical Code and NFPA 70E - Standard for Electrical Safety in the Workplace.

300-3.12 REMOVAL AND RELOCATION OF EXISTING EQUIPMENT. The Contractor shall carefully remove all salvageable equipment as indicated on the Plans. Any equipment which is damaged during the removal operation shall be subject to a reduction in payment for removal of the equipment. All equipment which is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the RPR.

The Contractor shall carefully relocate existing equipment as indicated in the Plans. Any equipment that is damaged during the relocation operation shall be replaced at no additional cost to the Owner.

Any existing electrical equipment, conduit, cables, etc. that is damaged during construction shall be replaced at no additional cost to the Owner to the satisfaction of the Owner and the RPR.

300-3.13 5 kV AND UNDER 600V CABLE CONNECTIONS.

Cable splicing/terminating personnel shall be licensed electricians who have the minimum continuous experience in terminating/splicing medium voltage cable as listed in Item L-108. The qualifications for these airfield lighting cable splicers shall be submitted for review and approval by the RPR prior to any work. The RPR may request sample splices be performed in his presence by the proposed personnel to clearly demonstrate that they have the skill and experience to perform this work. Connector kits and cables shall be provided in sufficient quantity by the Contractor in demonstrating these qualifications at no additional cost to the Owner.

Field-attached plug-in splices using FAA certified L-823 plug and receptacle connector kits, properly sized to the cable being used, shall be installed as shown in the plans. This work shall include the taping and heat shrinking. Refer to Item L-108 for additional requirements.

As an option, the Contractor may utilize enhanced FAA certified L-823 connector kits, such as the Amerace 54Super Kit. These kits do not require taping or heat shrinking. These kits shall be installed in accordance with the manufacturer's installation requirements. Note that the mixing of connector kits is unacceptable. The Contractor shall clearly list and submit the connector kits he proposes to utilize on the project for approval prior to any field construction work, and he shall only install that type during construction unless otherwise noted by the RPR.

For under 600V cable connections of voltage powered circuits, splices whether direct buried or within an underground enclosure shall only utilize approved cast splices, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M Company, or an approved equivalent.

300-3.14 CERTIFICATION AND PERFORMANCE. Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and RPR, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the RPR and compatible with the remainder of the airport lighting system.

300-3.15 AS-BUILT DRAWINGS. The Contractor shall keep one (1) full-sized set of prints for As-Built Drawings at the site, in good order, and annotated to show all changes made during the construction process.

The Contractor shall locate all underground and concealed work, identifying all equipment, conduit, circuit numbers, motors, feeders, breakers, switches, and starters. The Contractor will certify accuracy by endorsement. As-Built drawings shall be correct in every detail, so Owner can properly operate, maintain, and repair exposed and concealed work.

The As-Built drawings shall indicate all control system labeling and marking.

The Contractor shall store the As-Built drawings on the site. Drawings shall not be rolled. Make corrections, additions, etc., with pencil, with date and authorization of change.

As-Built drawings must be submitted to RPR before project will be accepted.

Minor deviations from the Plans and Specifications shall be as approved by the RPR.

Upon completion of the installation, the Contractor shall adjust the systems to the satisfaction of the RPR.

300-3.16 TESTING.

General Electrical Testing: Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification and certify compliance with test parameters. Tests shall be conducted in the presence of the RPR and shall be to his/her satisfaction. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest. Perform infrared scan tests and inspections of service and power distribution equipment at the respective buildings and provide reports. Electrical equipment will be considered defective if it does not pass tests and inspections. Reports shall include notations of deficiencies, remedial action taken and observations after remedial action.

System and Equipment Testing: All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Test equipment and instruments utilized by the Contractor shall have been calibrated following the manufacturer's recommended schedule to verify their accuracy prior to performing the testing work. The Contractor shall provide instrument calibration certificates on test equipment when requested by the RPR. Retesting work due to inaccurate or defective instruments shall be performed by the Contractor to the satisfaction of the RPR at no additional cost to the Owner.

a. Regulator Calibration:

The Contractor shall check and calibrate both new and existing regulators utilizing the enclosed "Constant Current Regulator Calibration Report". Refer to the material section on constant current regulators for additional requirements.

New regulators are calibrated at the factory prior to shipping, while existing regulators typically need checks and calibrations on a routine basis so that they do not get out of tolerance. The intent is to check and/or calibrate these regulators using a high accuracy meter prior to energizing and placing the airfield lighting system in service.

Utilize a high accuracy true RMS ammeter with high accuracy clamp-on current probe when making these measurements (use round type probes, accuracy + or – 2% required, sized per the cable diameter and circuit ampacity to achieve the best accuracy). Adjust regulators per manufacturer's instructions to meet the output currents on each brightness step as listed in Tables 5-2 and 5-3 in AC 150/5340-26.

b. Megger Testing:

The Contractor shall perform megger testing on each existing regulator circuit prior to any work on the electrical system. This information shall be recorded and documented by the Contractor and submitted to the RPR. The Contractor shall perform megger tests on each regulator circuit after the acceptance test period. This acceptance test information shall be recorded and documented by the Contractor and submitted to the RPR. Megger test shall be performed in accordance with the requirements of Item L-108.

The Contractor shall submit his initial megger test reports on the enclosed "Insulation-Resistance Test Report" form prior to any work on the electrical system. This report shall

be submitted to the RPR and approved by the Owner prior to Contractor proceeding with his work.

After final acceptance testing has been completed, the Contractor shall complete and submit his final megger test reports to the RPR and insert copies of the initial and final megger test reports in the Operation and Maintenance Manuals.

Megger testing shall be performed using an insulation meter, such as a Fluke 1507 Insulation Resistance Multimeter, Ideal 61-797 Digital Insulation Meter, or approved equal having an insulation test range up to 10 Gigohms or greater.

Insulation resistance testers for 5kV series circuits shall utilize the 1000V DC source output for testing. The test equipment shall be submitted for review and approval by the RPR prior to performing the tests.

The Contractor shall be responsible to maintain an insulation resistance equal to minimum 80% of the initial testing value through the end of the contract warranty period. This requirement is based on AC 150/5340-26C which states that resistance values inevitably decline over the service life of the circuit and that a 10-20 percent decline per year is considered normal. Note that AC 150/5340-26C cancels AC 150/5340-26B; thus, refer to the current edition of the maintenance AC for requirements in this project.

For existing circuit insulation resistance requirements, refer to "Existing Circuits" section of Item L-108.

The insulation resistance to ground for 600V rated cables shall be not less than 100 Megohms when measured per NETA standards.

The installations shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings in accordance with manufacturer's requirements. Testing equipment shall be furnished by the Contractor.

c. Ground Rod Impedance Testing:

The enclosed "Ground Rod Impedance Test Report" form shall be used, and testing shall be performed in the presence of the RPR.

As-Built drawings shall indicate the location of all installed ground rods. Each ground rod shall have a unique identifier that corresponds with its submitted ground impedance test report.

Three-pole fall-of-potential testers that can measure the ground resistance of a ground rod using auxiliary electrodes (staked testing), such as a Fluke 1621 Earth Ground Tester, shall be used for testing individual dedicated equipment ground rods at fixtures and equipment, or for testing isolated counterpoise ground rods not yet connected to the counterpoise wire.

Clamp-on testers that can measure the ground resistance of a ground rod without using auxiliary ground rods (stakeless testing), such as a Fluke 1630 Earth Ground Clamp Meter or approved equal, shall be used for testing counterpoise ground rods which have already been connected to the counterpoise wire, or ground ring ground rods which have already been connected to the established ground ring system.

Ground impedance test equipment shall be submitted for review and approval by the RPR prior to performing the tests.

If the ground rod's impedance exceeds 25 ohms, an additional rod shall be driven in a location suitable and approved by the RPR. However, the additional rod must satisfy the requirements of NEC 250.53 and not be less than 6 feet away from any other ground rod electrode. Additional ground rods shall not be measured for separate payment but shall be considered subsidiary to the counterpoise or respective equipment pay item.

The Contractor shall perform additional tests if required and requested by the RPR at no additional cost.

The Contractor shall coordinate with the resident RPR to approve tests daily before proceeding. The Contractor shall fill out a separate test report for each date. Test reports shall be submitted weekly to the RPR.

Airport lighting equipment and special systems shall be tested in accordance with applicable FAA Advisory Circular requirements and the manufacturer's installation instructions. These tests shall also include those system requirements listed within AC 150/5340-26 Maintenance of Airport Visual Aid Facilities.

300-3.17 INSPECTION FEES AND PERMITS. The Contractor shall obtain and pay for all necessary construction permits, licenses, government charges, and inspection fees necessary for prosecution of the Work. Unless otherwise noted, the Contractor shall pay all charges of utility owners for connections for providing permanent service to the Work, ready for subsequent utility account transfer to the Owner after final acceptance.

300-3.18 WORK SUPERVISION.

State of Texas: The electrical contractor (whether the general contractor or a subcontractor) shall be a licensed contractor in the state of Texas having an electrical classification suitable for performing the work required in these contract documents.

The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be a master electrician as defined by Texas Electrical Safety and Licensing Advisory Board. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the RPR.

All master and journeyman electricians shall be licensed in accordance with Texas Board requirements. The website located at <https://www.tdlr.texas.gov/electricians/eleclaw.htm> publishes the text of this statutory requirement. No unlicensed electrical workers shall perform electrical work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the Texas Electrical Safety and Licensing Advisory Board.

300-3.19 TRAINING. The training classes shall be coordinated with the Owner and RPR in advance of the final acceptance testing. Comprehensive operational and maintenance training materials shall be provided by the equipment manufacturer and the Contractor (see section 2.3 OPERATION AND MAINTENANCE DATA).

- a. Operations and Maintenance:
 - (1) One class, 4 hours in length.
 - (2) Maximum of six (6) people.
 - (3) Location at the discretion of Airport.
 - (4) Equipment
 - i. L-861T(L) Taxiway Edge Light

- ii. L-858(L) Airfield Guidance Sign
 - iii. L-830 Isolation Transformer
- (5) Provide training materials.
- (6) Include hands on troubleshooting specifics.
- b. Preventive Maintenance Program Recommendations
 - (1) Equipment
 - i. L-861T(L) Taxiway Edge Light
 - ii. L-858(L) Airfield Guidance Sign
 - iii. L-830 Isolation Transformer
 - (2) Go over failure scenarios and what to do.
 - (3) Provide technical assistance points of contact and phone numbers.

Schedule the training with the Owner at least 10 days in advance and notify the RPR.

Provide hands-on demonstrations and training of equipment components and functions, including adjusting, operating, and maintaining the lighting equipment and systems. Coordinate the training schedule with the Owner in advance, so that the Owner may record the training if desired. Provide 4 hours training for the operational personnel and 4-hours training for the maintenance personnel.

All training sessions shall be recorded, and documentation of training shall be turned over to the Owner as part of the O&M materials at project completion.

METHOD OF MEASUREMENT

300-4.1 The quantity of lockout/tagout and constant current regulator calibration procedures to be paid for shall consist of all lockout/tagout procedure work and all constant current regulator calibration work completed in place, accepted and ready for operation. This item does not include measurement for constant current regulator equipment.

BASIS OF PAYMENT

300-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the RPR.

Payment will be made under:

Item SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures – per Lump Sum

MATERIAL REQUIREMENTS

Commercial Item Description A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid
Fed. Spec. W-P-115	Panel, Power Distribution
Fed. Std. 595	Colors

Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters Laboratories Standard 514	Fittings for Conduit and Outlet Boxes
Underwriters Laboratories Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)
Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
CFR 1910	Occupational Safety and Health Regulations
CFR 1926	Safety and Health Regulations for Construction
ANSI/IEEE C2	National Electrical Safety Code
NFPA 70	National Electrical Code (NEC)
NFPA 70E	Standard for Electrical Safety in the Workplace
NFPA 101	Life Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1926	Safety and Health Regulations for Construction
Jaquith Industries, Inc.	The Design, Installation, and Maintenance of In-Pavement Airport Lighting

FAA ADVISORY CIRCULARS

AC 150/5300-13	Airport Design
AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 for Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Base and Transformer

	Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Taxiway and Runway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Isolation Transformers for Airport Lighting Systems
AC 150/5345-53	Airport Lighting Equipment Certification Program

END OF ITEM SS-300

CONSTANT CURRENT REGULATOR CALIBRATION REPORT

Standard Requirements: FAA AC 150/5340-26 (latest edition) Maintenance of Airport Visual Aid Facilities

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date: _____

Weather / Site Conditions: _____ Last Two Weeks of Rain: _____ inches

Constant Current Regulator #: _____ Serves: _____

	<u>Completed</u>	<u>Comments</u>
1. Check all control equipment for proper operation.	☐	_____
2. Perform short-circuit test. Record results and recalibrate if necessary.	☐	_____
3. Perform open-circuit test on regulators with open circuit protection. Open circuit protective device should de-energize the regulator. Record results.	☐	_____
4. Check and record regulator input voltage and current.	☐	_____
Input Voltage: _____ Input Current: _____		
5. Check and record regulator output load. (ONLY if regulator has monitoring package)	☐	_____
Volt-Amperes: _____		
6. Check and record output current on each brightness step. If output current is outside of the allowable range, adjust the regulator's on-board potentiometer to re-calibrate the output current within the allowable range. Re-record the new output current on this form.	☐	_____

3-Step CCR

B10: _____ B30: _____ B100: _____

Nominal: 4.8A 5.5A 6.6A

5-Step CCR

1: _____ 2: _____ 3: _____ 4: _____ 5: _____

2.8A 3.4A 4.1A 5.2A 6.6A

Tested By: _____ (Signature and Date)

Test Equipment: _____ (Manufacturer and Model No.)

RPR Witness: _____ (Signature and Date)

Owner / Sponsor Witness: _____ (Signature and Date)

INSULATION RESISTANCE TEST REPORTOwner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date Initial / Final Tests: _____

Weather / Site Conditions (Initial Test): _____ Last Two Weeks of Rain: _____ inches

Weather / Site Conditions (Final Test): _____ Last Two Weeks of Rain: _____ inches

	Circuit Designation and Color Code	Initial Test Results		Final Test Results	
		Regulator Size (kW)	Megger Reading Before Field Work (Megohms)	Regulator Size (kW)	Megger Reading After Field Work (Megohms)
1					
2					
3					
4					
5					
6					
Tested By:					
Test Equipment:					
RPR Witness:					
Owner/Sponsor Witness:					

Provide signature/date and manufacturer/model no. as required in the fields above.

Initial Test Record – Owner Disposition

Owner / Sponsor: _____ (Signature and Date)

Check one only: ☐ Proceed with Installation ☐ Hold

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: _____	Engineer: <u>Garver, LLC</u> _____
Airport: _____	Contractor: _____
Project Title: _____	Garver Project Number: _____
Date: _____	Weather / Site Conditions: _____
Fall-of-Potential Style Tester (F): Manufacturer: _____	Model #: _____
Clamp-On Style Tester (C): Manufacturer: _____	Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)
Tested By:					
RPR Witness:					

Provide signature/date in the fields above.

ITEM SS-301 ELECTRICAL DEMOLITION WORK

DESCRIPTION

301-1.1 This item shall consist of the removal and satisfactory disposal of existing runway and taxiway edge lights, in-pavement lights, guidance signs, markers, manholes, handholes, junction structures, racks, pads, equipment, poles, towers, shelters, and other incidentals, all of which are not designated or permitted to remain, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. This work shall include the removal of indicated equipment, materials, and incidentals necessary for a complete item removal, including all restoration work, as a completed unit to the satisfaction of the RPR.

301-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the RPR any conflict between plans and specifications that he observes or of which he is made aware.

MATERIALS

301-2.1 All backfill and repair materials used in electrical demolition, repair and restoration work shall comply with the referenced specifications and be approved by the RPR.

Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and Item L-125.

CONSTRUCTION METHODS

301-3.1 GENERAL. No demolition shall be started until the removal and/or relocation work has been laid out and approved by the RPR. All material shall be disposed of off-site. All hauling and disposal will be considered a necessary and incidental part of the work. Hauling cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

Equipment removal shall typically include removing the equipment and its accessories, removing foundations/pads, removing existing conduits, conductors and appurtenances, removal of conduit to below grade, and removal of existing circuits back to source. The work shall include restoring the area to match existing, including filling and tamping all holes with earth, and clearing and leveling the site.

The Contractor shall remove all existing underground cable, which is unused or rendered unusable by this project, when such is exposed or made accessible during this work. All such wiring removed shall become property of the Contractor and shall be immediately removed from the project. Wiring in conduit shall be removed as indicated or if new wiring is shown to be installed in its place. Existing wiring shall not be reused or reinstalled.

Wiring not exposed shall be abandoned in place if a reasonable effort will not remove it. No measurement or payment will be made for this cable removal work. Damage to turf or other systems will not be permitted to salvage or retrieve existing cable.

Any damage to electrical equipment, systems, structures, conduits, cables, and accessories or other utilities, designated to remain in place, shall be repaired or replaced expeditiously at no additional cost to the Owner and to the satisfaction of the Owner and RPR.

Holes, ditches, or other abrupt changes in elevation caused by the removal operations that could obstruct drainage or be considered hazardous or unsightly shall be backfilled, compacted, and left in a workmanlike condition.

Trenches or voids resulting from the removal or demolition of existing electrical equipment or other structures shall be filled with approved material placed in layers in accordance with Item P-152.

Concrete foundations and pads to be removed shall be obliterated full depth.

301-3.2 REMOVAL AND/OR RELOCATION OF LIGHT FIXTURES AND EQUIPMENT. Light fixtures and other equipment which are to be removed shall be carefully excavated. All concrete bases and concrete anchors shall be removed by the Contractor. The removed lights, guidance signs, isolation transformers and wiring harnesses shall then be given to the Owner, or properly disposed of if so, directed by the Owner. The ground around the removed lighting equipment shall be backfilled and properly compacted. Light fixtures and equipment which are to be relocated shall be stored on site and reinstalled with new lamps, new transformers, and all other new required accessories as indicated in the plans.

301-3.3 REMOVAL OF EXISTING EQUIPMENT. The Contractor shall carefully remove all salvageable equipment as indicated in the plans. Any equipment that is damaged during the removal and/or relocation operation shall be subject to a reduction in payment for removal and/or relocation of the equipment. All equipment that is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the RPR.

301-3.4 RELOCATION OF EXISTING EQUIPMENT. Existing equipment that is to be relocated shall be carefully disconnected from the existing electrical system. The equipment shall be stored on site in an enclosed area protected from the weather as directed by the Owner and RPR. The Contractor shall remove existing concrete bases and shall backfill and compact these areas to match existing. The electrical power circuit shall be field located and extended to the new installation location unless otherwise noted in the Plans. Coordinate the extension of the electrical service with the extension of the electrical duct serving the equipment and install duct, splice, and cable markers to mark the new complete route.

Refer to the plans for additional installation requirements concerning the relocation of existing lights, signs, systems, and incidentals.

Any equipment that is damaged during the relocation operation shall be subject to a reduction in payment for removal and/or relocation of the equipment.

Any equipment that is damaged during the relocation operation shall be repaired or replaced by the Contractor at his expense to the satisfaction of the Owner and RPR.

METHOD OF MEASUREMENT

301-4.1 The quantity of existing lights or guidance signs removed, to be measured under this item shall be the number of each complete unit removed and accepted by the RPR.

This item shall include removing and storing the existing equipment as directed by the RPR.

Where the light base and concrete structure are indicated to be removed or demolished, the item shall include restoring the area to match existing, including removing the complete concrete item, filling and tamping all holes with earth, and clearing and leveling the site.

BASIS OF PAYMENT

301-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the RPR.

Payment will be made under:

Item SS-301-5.1	Existing Stake Mounted Edge Light, Removed -- per Each
Item SS-301-5.2	Existing Base Mounted Guidance Sign, Removed -- per Each
Item SS-301-5.3	Existing Abandoned Sign Base, Demolished – per Each

END OF ITEM SS-301

Page Intentionally Left Blank

ITEM SS-305 DIRECTIONAL BORING

DESCRIPTION

305-1.1 This item shall consist of furnishing and installing conduits via directional boring methods, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The borings shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. It shall also include all trenching, backfilling, mandreling installation of drag wires and duct markers, capping, and the testing of the installation as a completed duct system ready for installation of conduit and/or cables, to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

305-2.1 GENERAL. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

All equipment and materials covered by these specifications shall be new and meet applicable manufacturer's standards.

Polyethylene conduits shall conform to SDR 11 type. Innerduct conduits shall conform to SDR 13.5 type.

The Contractor shall submit a statement of qualifications including previous similar jobs experience in directional boring for the last three (3) years. Previous job description work shall include length, pipe type, pipe size(s) and soil type,

The Contractor shall submit complete shop drawings outlining his directional boring method (including drilling fluids, additives and mixtures), drill rod, bore size, materials, equipment and safety requirements to be utilized on this specific project, for review and approval by the RPR.

All materials shall be inspected at the job site for damage. Defective materials shall be removed from the job site and replaced with new materials prior to the work.

CONSTRUCTION METHODS

305-3.1 GENERAL. Boring shall be done by pilot hole method using fluid as a lubricant only and shall not undermine the surrounding ground. Jetting will not be permitted. The Contractor shall use a guidance system to assure knowledge of the bore location while making the bore. The Contractor will not be paid for unusable sections.

Locate and clearly mark all utilities prior to start of excavation or drilling. The Contractor will be responsible for damage to pavements, utilities, or other structures caused by his activity. The Contractor shall repair, at his own expense, any damaged pavement, utility, or other structure as directed by the RPR or the owner of the utility or structure. The Contractor shall not excavate to find a bored casing without specific approval and definitions of limits. No payments will be made for excavation and repair except as shown on drawings.

The Contractor shall inspect the locations where the encasement structures are to be installed and familiarize himself with the conditions under which the work will be performed and with all necessary details for orderly prosecution of the work. The omission of any details in the Plans and herein for the satisfactory installation of the easement in its entirety shall not relieve the Contractor of full responsibility for the installation.

Directional bores shall be a minimum 60" below the bottom of the new or existing pavement subbase unless otherwise noted in the plans.

For runway pavement, the runway's typical section shall be considered 42" in overall depth. Therefore, the overall depth of the directional boring under runways shall be a minimum 8'-6" below the surface of the pavement.

For taxiway pavement, the taxiway's typical section shall be considered 32" in overall depth. Therefore, the overall depth of the directional boring under runways shall be a minimum 7'-8" below the surface of the pavement.

Directional boring shall be a minimum 3'-0" below finished or final grade in earth areas unless otherwise noted in the plans.

The Contractor shall utilize a beacon or other depth-reading instrument to verify the depth below the runway, taxiway, or other paved surface.

The bore size shall be the minimum size for the work required. Upsizing the bore will not be allowed.

The Contractor shall perform all excavation required to complete the work regardless of the material encountered. Excavation from the access shafts (bore pits) more than the required to backfill the access shafts and open ditch portion of the line shall be disposed of by the Contractor off Airport Property.

Pits and trenches shall be constructed and maintained in accordance with the current edition of the OSHA Standard for Excavating and Trench Safety Systems. Restore ground to original conditions after work completion including seeding and topsoiling.

The access shafts (bore pits) for encasement installation shall be rectangular in plan view with the longest dimension being constructed with the direction of the pipe. The access shafts shall be constructed at a location shown on the plans.

Use a high-quality drilling fluid to ensure hole stability, cuttings transport, bit and electronics cooling, and hole lubrication to reduce drag on the drill pipe and the product pipe. Use only fluid with a composition that complies with all federal, state, and local environmental regulations. Mix the drilling fluid with potable water (of proper pH) to ensure no contamination is introduced into the soil during the drilling, reaming, or pipe installation process. The Contractor is responsible for any required pH adjustments.

Disposal of the drilling fluids is the responsibility of the Contractor. Conduct disposal in accordance with all relative environmental regulations and permit requirements. No excess drilling fluids shall remain in the bore access pit or receiving pit. Immediately clean up any drilling fluid spills or overflows from these pits. All excess drilling fluids and mud shall be disposed of off Airport Property daily. Bore pits and trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Assemble the entire pipe to be installed via directional boring prior to starting pull back operations. Support the pipe to enable it to move freely and prevent damage. Install the pipe in one continuous pull. Maximum allowable tensile force imposed on the pull section is not to exceed 90 percent of the pipe manufacturer's safe pull strength. If multiple pipe sizes or materials, the lowest safe strength shall govern. Damaged pipes shall be replaced at no additional cost to the Owner.

Extend and connect pipes to junction structures as indicated. When pipe is used as a sleeve, install interior conduits as indicated and terminate the conduits with end bells as shown in the plans or as required.

Upon completion of the work, immediately remove all debris from the job site and restore the areas to original condition acceptable to the RPR.

In the event of failure to install the directional bore pipe or conduit, the Contractor shall remove the pipe or conduit from the bore and remove it from the job site. The bore hole shall be completely filled with a flowable fill conforming to Item P-153, Controlled Low Strength Material, to prevent future problems. If the pipe or conduit cannot be removed, then it shall be cut off minimum 3 feet below the ground and the pipe/conduit and surrounding space filled with flowable fill. This remedial work shall be performed at no additional cost to the Owner. Any failure event shall be immediately coordinated with the RPR and Owner prior to the Contractor taking remedial action.

The Contractor shall record and document all drilling logs that provide drill bit locations, both horizontally and vertically. The person holding the tracker shall be able to see these values on the display and help steer the bore. The bore depths shall be recorded and shown to be consistent; U-shaped bores are not allowed.

The logged data shall include both pitch and depth, time stamped, GPS location, and downhole fluid pressure. In addition, as-built drawings shall be marked showing bore depths where the bore crosses other facilities or obstacles, including but not limited to existing/new/future pavement edges, pavement crowns/centerlines, beneath ditch center lines, and at other utility crossings.

These records and as-builts shall be submitted to the RPR and included in the O&M manual for the project.

All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

METHOD OF MEASUREMENT

305-4.1 The quantity of directional boring to be paid for under this item shall be the number of linear feet of conduit and directional boring installed with backfill, compaction, turf restoration, and appurtenances, measured in place, completed and accepted to the satisfaction of the RPR.

Directional boring will be measured by the horizontal linear foot along the approximate centerline of the bore from junction box center to junction box center. No measurement will be made for vertical segments or elevation changes.

BASIS OF PAYMENT

305-5.1 Payment will be made at the contract unit price per linear foot for each type and size of directional boring completed by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the RPR.

Payment will be made under:

Item SS-305-5.1	Directional Boring, 1-Way 2"C Polyethylene Conduit – per Linear Foot

Item SS-305-5.2	Directional Boring, 2-Way 2"C Polyethylene Conduit – per Linear Foot

END OF ITEM SS-305

PAGE INTENTIONALLY LEFT BLANK

ITEM SS-310 AIRPORT LIGHTING SYSTEMS

DESCRIPTION

310-1.1 This item shall consist of furnishing and installing airport runway and taxiway edge lighting systems, retroreflective markers, guidance signs, runway centerline and touchdown zone lighting systems, other taxiway lighting systems, and other approach lighting aid systems, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The system shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. This work shall include the furnishing of all equipment, materials, services, and incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the RPR.

The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the RPR any conflict between plans and specifications that he observes or of which he is made aware.

EQUIPMENT AND MATERIALS

310-2.1 GENERAL.

a. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and the applicable Item L Series Specifications.

b. For pre-cast or prefabricated concrete encased light base installations, the Contractor shall submit and coordinate the construction of the proposed pre-cast units with the RPR onsite to review and approve the construction process. The Contractor shall submit his proposed installation process for review and approval by the RPR. The Contractor shall provide additional items and work if required and requested by the RPR for the construction and installation of the pre-cast units at no additional cost to the Owner.

Pre-cast or prefabricated concrete encased light bases may only be assembled at the Contractor's staging area at the airport to allow the RPR to check and approve all such construction items. Pre-cast bases assembled offsite will not be allowed.

310-2.2 LIGHT FIXTURES. Airfield lights shall be supplied with all features and accessories including isolation transformers, light bases, base covers, safety ground rods, concrete pads and incidentals required for a complete installation as defined in these Specifications and as shown on the plans.

310-2.3 LAMPS. Lamps for elevated edge lights shall be LED type as specified.

310-2.4 SPARE EQUIPMENT INCLUDING FIXTURES AND SPARE SIGN REPLACEMENT COMPONENTS. Provide 10 percent (rounded up to the next whole number) spare fixtures of each type installed for the taxiway and runway edge and runway threshold lights, add other types or new spare lamps as needed, minimum quantity of 2 required. Provide 10 percent (rounded up to the next whole number) spare sign replacement components of each type installed for signs, minimum quantity of 1 required. Spare fixtures and spare sign replacement components shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

- a. A spare elevated LED fixture unit shall be one complete, ready-to-install fixture, including the coupling, column, head housing assembly, cordset, LED power supply assembly, LED assembly, and lens assembly.
- b. A spare elevated quartz fixture unit shall be one complete, ready-to-install fixture, including the

- coupling, column, head housing assembly, cordset, lamp assembly, and lens assembly.
- c. A spare in-pavement LED fixture unit shall be one complete, ready-to-install fixture, including the top cover assembly, bottom pan assembly, cordset, LED power supply assembly, and LED assembly.
- d. A spare sign replacement component unit shall include the LED light tube assembly and LED power supply assembly.

Spare fixtures and sign replacement components shall be on-site and available for use by the Contractor prior to the final acceptance testing. Any fixtures or sign components installed new in this project and replaced as part of the final acceptance testing shall be shipped back to the manufacturer for repair or replacement, and then delivered back to the Owner at no additional cost.

The spare fixtures and spare sign replacement components shall be delivered and stored as directed by the Owner, with transmittal receipt signed by Owner's representative. A signed copy shall be forwarded to the RPR with an additional signed copy placed in the O&M manuals.

310-2.5 GUIDANCE SIGNS. Guidance signs shall be L-858(L), meeting the criteria set forth in AC 150/5345-44, Specification for Taxiway and Runway Signs, and suitable for base mounting. Each unit shall be furnished with the required panels, mounting assemblies, frangible couplings, transformer, intensity control, identification tag, metal tethers, fasteners, and safety ground rods.

Style 2 and Style 3 signs shall meet the luminance requirements in AC 150/5345-44 throughout the current ranges of the associated series circuit.

Guidance signs shall have an integral on/off switch for airport maintenance use.

Signs shall be furnished with permanent type nameplates that are both weather and sunlight resistant. Nameplates which are completed with ink markers or similar methods will not be accepted.

Refer to the guidance sign index in the Plans for information on each sign's size, style, class, and mode.

The complete sign installation shall be designed to withstand a 200-mph wind load.

310-2.6 VEHICULAR STOP SIGN. Vehicular stop signs shall be furnished and installed as indicated on the Plans. Sign verbiage shall comply with FAA AC 150/5340-18, Paragraph 11 for Roadway Signs, and associated Figure 14. Signs shall be retroreflective and comply with all applicable federal, state (AHTD), and local criteria for stop sign color, reflectivity, et. al.

310-2.7 ISOLATION TRANSFORMERS. New isolation transformers shall be Type L-830 and have a wattage rating suitable for the wattage of the fixture and sign lamps. The transformer shall be listed in FAA Circular AC 150/5345-47.

Provide 10 percent spare isolation transformers of each type installed for lights, signs, and other equipment. Spare transformers shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

CONSTRUCTION METHODS

310-3.1 GENERAL. The installation and testing details for the lighting system shall be as specified in the applicable advisory circulars.

The Contractor is responsible for all surveying and measurement which is required to accurately position and aim airfield lighting systems and equipment.

Airfield lighting systems and equipment that are improperly installed shall be removed and re-installed correctly as directed by the RPR. No payment will be made for the removal and reinstallation of airfield lighting systems and equipment improperly installed. All remedial work shall be to the satisfaction of the RPR.

310-3.2 LIGHTING LAYOUT PLANS. The Contractor shall stake the airfield lighting systems, prior to installation of any trench, cable, or lighting apparatus. The intent is to stake the installation at the locations indicated, noting any deviation from plan dimensions to the RPR prior to installation. The Contractor shall obtain the services of an experienced and licensed surveyor to perform this work.

The RPR shall provide electronic CADD files to the Contractor for this staking work. The Contractor shall stake the items and his surveyor shall provide a CADD file submittal back to the RPR. Based upon this submittal, the RPR shall coordinate and provide directions on any adjustments necessary to meet existing field condition requirements and comply with FAA Advisory Circular requirements on the layout and spacing of equipment.

The Contractor and his surveyor shall then make any electronic CADD file spacing adjustments and/or field staking adjustments prior to installation at no additional cost to the Owner.

Refer to General Provisions Section 50 Control of Work for additional construction layout and staking requirements.

310-3.3 PLACING THE EQUIPMENT. The equipment shall be mounted on concrete pads as shown in the plans. Secure the equipment and make all final connections.

310-3.4 MOUNTING, LEVELING, AND AIMING. The concrete support to which the equipment is fastened shall be accurately leveled before mounting the equipment. The units shall be properly aimed, as recommended by the manufacturer of the supplied equipment. This adjustment shall be accomplished using factory-approved aiming devices and techniques.

310-3.5 PLACING LIGHTS. All equipment shall be installed at locations indicated in the plans. Lights shall be laid out by locating the two control points by station as indicated on the plans and measuring the indicated individual separation distances. Light bases shall be located within 1 inch +/- longitudinally and 0.5 inches +/- transversely of the location indicated unless deviation is approved by the RPR. Excavation for installation of light bases shall be backfilled with at least 4 inches of granular leveling course, as approved by the RPR. Fixture height shall be as indicated on the Drawings.

For pre-cast or prefabricated concrete encased light base installations, a leveling course of sand shall be placed in the bottom of the excavated hole, sufficient for accurately installing, leveling and placing the lights in accordance with the requirements in this specification and AC 150/5340-30. Concrete encased light bases shall be allowed to cure a minimum of 7 days prior to installation.

Utilize a bubble level device to level all light fixtures in the horizontal light plane during the day, and then check at night to ensure uniformity in light output.

Provide factory-approved alignment tools and aiming devices to properly level and align fixtures as required by the FAA Advisory Circulars and manufacturer's installation instructions. After all light fixture installations are completed and accepted by the RPR, these alignment tools and aiming devices shall become property of the Owner and shall be delivered and stored as directed by the Owner.

310-3.6 PLACING SIGNS. All signs shall be installed at the approximate location indicated in the plans. The specific requirements for sign location are specified in AC 150/5340-18, Standards for Airport Sign

Systems. Specific requirements of this AC are also shown on the Plans. Signs shall be located within 1 inch +/- longitudinally or 0.5 inches +/- transversely of the required location unless deviation is approved by the RPR. The locations for the signs shall be staked by the Contractor and approved by the RPR before installation begins.

Provide single module signs with one tether. Provide multiple module signs with a tether at both ends.

310-3.7 TRANSFORMER INSTALLATION. The transformer for base mounted fixtures shall be placed inside the base. The transformer for stake mounted fixtures shall be located uniformly as shown on the plans. The primary cable connections shall be made with L-823 connectors as described in Item L-108 and have 3 feet of slack cable. The secondary leads connected to the lamp leads by means of a disconnecting plug and receptacle provided with the unit, and this joint shall not be taped. The secondary joint shall be fastened with a holding ring provided for this purpose.

310-3.8 UNIT ASSEMBLY. All electrical equipment, including edge lights, guidance signs and other visual aid units shall be assembled in accordance with the manufacturer's installation procedures. Anti-seize compound shall be used on all screws, nuts, and threads, including frangible coupling threads. If coated bolts are used (ceramic metallic/fluoropolymer coating), then do not apply anti-seize compound.

Provide and install all spacers, shims, and gaskets as required, and verify they are in place before installing the light fixture on the base.

Bolts and washers for new and existing bases shall be new. Do not reuse existing hardware.

The minimum thread engagement into top flange of the base shall be 0.5 inches. For in-pavement light fixture assemblies, the bolt protrusion requirement shall be minimum 0.75 inch; maximum 1 inch.

310-3.9 IDENTIFICATION NUMBERS. An identifying number shall be assigned to each light and sign in accordance with the plans or as approved by the RPR and Owner. This number shall be imprinted with reflective black with 1/2" letters on a non-corrosive metal disc 2" minimum diameter and attached to the pavement side of the fixture with a metal screw.

310-3.10 TEMPORARY AIRFIELD LIGHTING. Refer to the Airfield Lighting Phasing Plans and Details for additional requirements. Existing lighting circuits shall remain operational by use of temporary circuits. New lighting circuits shall also be connected and remain operational by use of temporary circuits. This item shall include all work to maintain the existing and new lighting circuits during construction and allow all taxiways and runways in operation to remain lighted, including that portion through the construction area, as indicated in the Phasing Plans and as directed by the RPR.

The Contractor shall perform initial field work including location and verification of existing circuits and submit plans for the temporary airfield lighting required in each work phase, for review and approval by the RPR and Owner, prior to starting work of that phase. This work shall include megger testing of circuits and circuit segments before and after installation and connection of jumpers.

The Contractor shall install couplings and other required fittings/appurtenances in conduit systems at last pavement joint within each phase for connecting to conduit systems in the next phase, or for connecting to existing conduit systems to remain.

310-3.11 TESTING. The installation shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings as outlined in Item SS-300 and Item L-108. Testing equipment shall be furnished by the Contractor. Refer to Item L-108 for additional test requirements.

Tests shall be conducted in the presence of the RPR and shall be to his/her satisfaction.

All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and RPR, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the RPR and compatible with the remainder of the airport lighting system.

METHOD OF MEASUREMENT

310-4.1 Temporary airfield lighting shall be measured as a lump sum complete item per each respective phase work area, including all work completed in place and ready for operation, and including the installation, protection, and removal of all temporary cables, conduits, lighting, grounding, marking, and associated items and appurtenances, as indicated in the Drawings and as directed by the RPR.

BASIS OF PAYMENT

310-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the RPR.

310-5.2 Payment will be made at the contract lump sum price for each complete item, measured as provided above, and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the RPR.

Payment will be made under:

Item SS-310-5.1	Temporary Airfield Lighting (Phase 1) -- per Lump Sum
Item SS-310-5.2	Temporary Airfield Lighting (Phase 2A) -- per Lump Sum
Item SS-310-5.3	Temporary Airfield Lighting (Phase 2B) -- per Lump Sum

END OF ITEM SS-310

PAGE INTENTIONALLY LEFT BLANK

ITEM C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

- a. Provide qualified personnel to develop and implement the CQCP.
- b. Provide for the production of acceptable quality materials.
- c. Provide sufficient information to assure that the specification requirements can be met.
- d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction, *and may be held in conjunction with the preconstruction meeting*. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
- b. Discussion of the QA program.
- c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
- d. Establish regular meetings to discuss control of materials, methods and testing.
- e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

- (1) Professional Engineer with one (1) year of airport paving experience.
- (2) Engineer-in-training with two (2) years of airport paving experience.
- (3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal
- e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning

to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, *Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation*:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a.** Specification item number (e.g., P-401)
- b.** Item description (e.g., Hot Mix Asphalt Pavements)
- c.** Test type (e.g., gradation, grade, asphalt content)
- d.** Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)
- e.** Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)
- f.** Responsibility (e.g., plant technician)
- g.** Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description
- (2) Compliance with approved submittals
- (3) Proper storage of materials and equipment
- (4) Proper operation of all equipment
- (5) Adherence to plans and technical specifications
- (6) Summary of any necessary corrective actions
- (7) Safety inspection.
- (8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

- (1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or
- (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

- a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 20%.
- d. When 75% or more of the original contract is earned, an additional 20%
- e. After final inspection and acceptance of project, the final 10%.

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100-14.1 Contractor Quality Control Program (CQCP) – Lump Sum

REFERENCES

12/21/2018**AC 150/5370-10H**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

102-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

102-1.2 *This item covers the application of Temporary Erosion Control items at locations shown on the Plans, as directed by the Engineer, and as required for permit compliance, and the requirement of the Contractor to produce, execute, and maintain a specific Storm Water Pollution Prevention Plan (SWPPP) for the project. The Contractor will also be required to request and obtain all necessary federal, state, and local permits. The temporary erosion control measures shown in the Plans do not represent the extent of work and coordination required by the Contractor under this item.*

MATERIALS

102-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

102-2.2 Mulches. ~~Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.~~

102-2.3 Fertilizer. ~~Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.~~

102-2.4 Slope drains. ~~Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.~~

102-2.5 Silt fence. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project. *In addition, all other materials shall meet commercial grade standards and be in accordance with SECTION 506 - TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS of the Standard Specifications, except as modified or augmented herein. Heavy Duty silt fencing (with welded wire in the fabric) may be required on steep slopes if the Engineer determines that the silt fence used by the Contractor is not performing satisfactory.*

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The *RPR Contractor* shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Silt fences shall extend a minimum of 16 inches and a maximum of 34 inches above the ground surface. Posts shall be set no more than 10 feet on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch overlap and securely sealed. A trench shall be excavated approximately 4 inches deep by 4 inches wide

12/21/2018

AC 150/5370-10H

on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

102-3.5 Construction Methods. *Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits. The coordination with governing agencies shall include, but not limited to the following:*

- *Filing the Notice of Intent with the Texas Commission on of Environmental Quality (TCEQ),*
- *Producing and maintaining an approved Storm Water Pollution Prevention Plan,*
- *Coordinating and obtaining all local permits regarding grading operations for the proposed improvements, Contractor's staging area, spoil placement and any other grading operations related to the project as directed by the local governing agency.*

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured ~~as follows:~~ *as one complete item. This work includes obtaining all necessary federal, state, and local permits required to complete this project.*

- ~~a. Temporary seeding and mulching will be measured by the square yard.~~
- ~~b. Temporary slope drains will be measured by the linear foot.~~
- ~~c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.~~
- ~~d. All fertilizing will be measured by the ton (kg).~~
- ~~e. Installation and removal of silt fence will be measured by the [linear foot] [Lump sum].~~

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 *Temporary erosion control acceptably completed will be paid for at the contract lump sum price bid for "TEMPORARY EROSION CONTROL," which shall be full compensation for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer. Payment for "TEMPORARY EROSION CONTROL" will also include obtaining and compliance with the SWPPP, which shall include compensation for drainage-way inspections, report preparation, housekeeping practices, cleaning and maintenance, and other actions outlined in the SWPPP prepared by the Contractor necessary to execute the Plan. This item consists of all erosion control items not listed as a separate pay item in the Unit Price Schedule. Any fines issued to the Owner as a result of the Contractor's insufficient execution of the SWPPP will be assessed to the Contractor. Such deductions shall not be limited to the lump sum price of this item. Payment will be made under:*

Item C-102-5.1 Temporary Erosion Control—per Lump Sum

12/21/2018

AC 150/5370-10H

~~102-5.1~~ Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

~~Item C-102-5.1a~~ ——— Temporary seeding and mulching — per square yard

~~Item C-102-5.1b~~ ——— Temporary slope drains — per linear foot

~~Item C-102-5.1c~~ ——— Temporary benches, dikes, dams and sediment basins — per cubic yard

~~Item C-102-5.1d~~ ——— Fertilizing — per ton

~~Item C-102-5.1e~~ ——— Installation and removal of silt fence [— per linear feet (meter) —] [— lump sum —]

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 Payment for Extra Work.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

ITEM C-105 MOBILIZATION

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 5 percent of the total bid exclusive of mobilization.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4.1 Engineer/RPR field office. The building for the temporary field office shall be for the exclusive use by the Engineer as a field office and shall conform to the requirements listed below. The dimensions and other requirements specified herein are minimums and the building may be built by the Contractor for the specific purposes noted herein. It is not intended, however, to prohibit the use of commercially built trailers or prefabricated buildings which may deviate in minor dimension or detail from the requirements listed herein but may in some features exceed the listed requirements and in all major respects be entirely suitable for the purpose intended. The Engineer will determine the suitability of any building furnished. It shall be the responsibility of the Contractor to coordinate and obtain also necessary permits and install all required temporary facilities to provide a complete and usable temporary field office.

Minimum requirements for offices:

a. The building may be portable or other suitable type with 7-ft minimum ceiling height; must be floored, weatherproof and reasonably dustproof; must have at least two glazed sliding windows provided with window latches; must have at least one door provided with a substantial lock and all keys placed in the possession of the Engineer. Doors and windows shall be screened. The building need not be new but the facility furnished under this item shall be neat, clean, sound and usable for the purpose intended.

b. The building shall be provided with electric lights and power outlets arranged as directed by the Engineer. The building shall be provided with equipment in good working order. In cold weather the building shall be provided with adequate vented space heating facilities and fuel for heating. In hot weather the building shall be equipped with adequate air conditioning units. Heating and cooling and telephone utility service will be furnished at no cost to the Owner or Engineer.

c. The building for the field office shall provide not less than 240 sq. ft. of floor space. At least two tables each suitable for desk and drafting table work shall be provided with approximate dimensions of 30" x 48". These tables may be movable, attached to a wall, or built-in. Each table will be provided with at least two drawers (minimum dimensions: 8" deep x 12" wide by 24" long) or equivalent cabinet or shelf space for storing field books and records.

d. The building shall be provided with internet access with a minimum download speed of 24 megabits per second. This service shall be provided for the length of the contract or construction project, whichever is greater.

105-4.2 Contractor's access / haul routes. The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the

12/21/2018

AC 150/5370-10H

Contractor. Temporary pipe culverts will not be measured for separate payment, but will be considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.

105-4.3 Contractor's Staging Area. *The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization."*

105-4.4 Instrument Control. *The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in the General Requirements of the Standard Specifications. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Mobilization".*

105-4.5 Clean-Up. *From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.*

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105-6.1	Mobilization (Maximum 5% of Total Bid Exclusive Mobilization)– per Lump
Sum	

12/21/2018**AC 150/5370-10H**

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1.1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

101-1.2 *Limits of pavement removal, pavement repair, joint and crack repair, paint and rubber removal, and cold milling are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.*

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of **2 inches**. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlying material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. If the material is to be wasted on the airport site, it shall be broken to a maximum size of 2 inches.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

d. Disposal. *All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. ~~Remove all vegetation and debris from cracks to a minimum depth of 1 inch. If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch wide with a crack sealant [per ASTM D6690]. The crack sealant, preparation, and application~~

shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch, not to exceed 1/4 inch. Any excess joint or crack sealer shall be removed from the pavement surface.

101-3.3 Removal of Foreign Substances/contaminates prior to remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, or sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

For areas to be repainted, the existing painted surface shall be cleaned by high-pressure water blasting or sand blasting, as required, to remove all foreign material that would reduce the bond between the new paint and the old paint.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

a. ~~Repair of concrete spalls in areas to be overlaid with asphalt.~~ The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches outside the affected area and 2 inches deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR-Contractor shall layout the area to be milled with a straightedge in increments of 1-foot widths. *The Contractor's layout shall be approved by the RPR prior to beginning milling operations.* The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

12/21/2018

AC 150/5370-10H

b. Profiling, grade correction, or surface correction. ~~The milling machine shall have a minimum width of [7] feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to [windrow the millings or cuttings] [remove the millings or cuttings from the pavement and load them into a truck]. All millings shall be removed and disposed of [off the airport] [in areas designated on the plans].~~

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.8.1 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8.2 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with [Item P-605] [Item P-604].

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with [router] [random crack saw] by removing a minimum of 1/16 inch from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

12/21/2018

AC 150/5370-10H

~~101-3.9.2 Removal of Existing Crack Sealant.~~ Existing sealants will be removed by [routing] [random crack saw]. Following [routing] [sawing] any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

~~101-3.9.3 Crack Sealant.~~ Crack sealant material and installation will be in accordance with [Item P-605].

101-3.9.4 Removal of Pipe and other Buried Structures.

- a. **Removal of Existing Pipe Material.** Not used.
- b. **Removal of Inlets/Manholes.** Not used.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

~~101-4.2 Joint and crack repair.~~ The unit of measurement for joint and crack repair shall be the linear foot of joint.

101-4.3 Removal of Foreign Substances/contaminates (*Pavement Marking Removal*). The unit of measurement for foreign Substances/contaminates removal shall be the square foot.

~~101-4.4 Spalled and failed asphalt pavement repair.~~ The unit of measure for failed asphalt pavement repair shall be square foot.

~~101-4.5 Concrete Spall Repair.~~ The unit of measure for concrete spall repair shall be the number of square feet. The location and average depth of the patch shall be determined and agreed upon by the RPR and the Contractor.

~~101-4.6 Cold milling.~~ The unit of measure for cold milling shall be [] inches of milling per square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area and will be paid for the total depth of milling.]

101-4.7 Removal of Pipe and other Buried Structures. Not required.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P-101-5.1	Concrete Pavement Removal - per square yard
Item P-101-5.2	Pavement Marking Removal – per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-152 EXCAVATION, SUBGRADE, AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature.

b. Borrow excavation. Borrow excavation shall consist of approved material required for the construction of embankments or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas designated by the Resident Project Representative (RPR) within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport boundaries.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed *of off-site or as directed by the RPR.* ~~in designated waste areas as shown on the plans.~~ Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR. *Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.*

CONSTRUCTION METHODS

152-2.1 General. ~~Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.~~

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of *off site* ~~in waste areas as shown on the plans.~~ All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of

the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Volumetric quantities were calculated using design cross sections which were created for this project using the DTM files of the applicable design surfaces and generating End Area Volume Reports. Paper copies of design cross sections and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor ~~may~~ *shall* verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.04 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of *as described in paragraph 152-1.3 shown on the plans*.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When *the quality of material varies significantly* ~~selective grading is indicated on the plans~~, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be *disposed of as directed in paragraph 152-1.3*. This excavated material shall be paid for at the contract unit price per cubic yard for Unsuitable Excavation. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a *necessary part of Unsuitable Excavation* ~~part of the embankment~~. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as Unsuitable Excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of *some* existing structures and utilities required to permit the orderly progress of work *may* will be accomplished by someone other than the Contractor. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans. *All work associated with the excavation, removal, backfill, disposal, and/or stockpiling of existing structures and culverts will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".*

152-2.3 Borrow excavation. ~~Borrow areas within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed by the RPR. All unsuitable material shall be disposed of by the Contractor as shown on the plans. All borrow pits shall be opened to expose the various strata of acceptable material to allow obtaining a uniform product. Borrow areas shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Borrow areas shall not create a hazardous wildlife attractant.~~

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 95% of maximum density for non-cohesive soils, and 90% of maximum density for cohesive soils as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been

accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 95% of maximum density for non-cohesive soils, and 90% of maximum density for cohesive soils as determined by ASTM D1557. Under all areas to be paved, the embankments shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed in accordance with Item T-901.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compact and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a 20 ton Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100 psi in the presence of the RPR. Apply a minimum of 50% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum dry density as determined by ASTM D1557. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D1557.

The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the methods in ASTM D1557. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

- a. **Smoothness.** The finished surface shall not vary more than $\pm \frac{1}{2}$ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.
- b. **Grade.** The grade and crown shall be measured on a 50-foot grid and shall be within ± 0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to be placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the average end areas of design cross sections for computation of neat line design quantities. The end area is that bound by the original ground line established by ~~the design survey field cross-sections~~ and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his/her own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

*Measurement of unclassified and borrow excavation shall be based on **plan quantities**. These quantities are believed to be correct and shall be utilized for final payment notwithstanding any adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the Engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal.*

No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his/her own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

152-3.2 The quantity of unclassified excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.3 The quantity of borrow excavation to be paid for shall be the number of cubic yards measured in its ~~final~~ original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

~~**152-3.4** The quantity of embankment in place shall be the number of cubic yards measured in its final position.~~

152-3.5 Stockpiled material shall not be measured for payment in the stockpiled position.

152-3.6 *Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of excavation will be calculated by the average end area method. The necessary refilling of unsuitable areas will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". Only that amount of excavation directed by the Engineer will be measured for payment.*

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

~~**152-4.2** For embankment in place, payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

~~**152-4.3** Stockpiled material shall be paid for on the basis of the number of cubic yards measured in the stockpiled position.~~

152-4.4 *Unsuitable excavation shall be paid for at the contract unit price bid per cubic yard for "Unsuitable Excavation", which price shall be full compensation for all excavation; for disposal or placement of unsuitable material (in accordance with section 152-1.3), including loading, hauling, spreading, and compaction; for compaction and preparation of subgrade; for the refilling, rolling, and compaction of all undercut areas; and for all equipment, tools, labor, and incidentals necessary to complete the work.*

Payment will be made under:

Item P-152-4.1	Unclassified Excavation – per cubic yard
Item P-152-4.2	Unsuitable Excavation – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³ (600 kN-m/m ³))

ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2700 kN-m/m ³))

ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-155 LIME-TREATED SUBGRADE

DESCRIPTION

155-1.1 This item shall be used for soil modification that require strength gain to a specific level. This item shall consist of constructing one or more courses of a mixture of soil, lime, and water in accordance with this specification, and in conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans. *Dry placing of lime shall not be used. Slurry placement of lime will be the only acceptable method of placement.*

MATERIALS

155-2.1 Lime. Quicklime, hydrated lime, and either high-calcium dolomitic, or magnesium lime, as defined by ASTM C51, shall conform to the requirements of ASTM C977. Lime not produced from calcining limestone is not permitted.

155-2.2 Commercial lime slurry. Commercial lime slurry shall be a pumpable suspension of solids in water. The water or liquid portion of the slurry shall not contain dissolved material injurious or objectionable for the intended purpose. The solids portion of the mixture, when considered on the basis of "solids content," shall consist principally of hydrated lime of a quality and fineness sufficient to meet the following chemical composition and residue requirements.

a. Chemical composition. The "solids content" of the lime slurry shall consist of a minimum of 70%, by weight, of calcium and magnesium oxides.

b. Residue. The percent by weight of residue retained in the "solids content" of lime slurry shall conform to the following requirements:

- Residue retained on a No. 6 (3.35 µm) sieve = maximum 0.0%
- Residue retained on a No. 10 (2.00 µm) sieve = maximum 1.0%
- Residue retained on a No. 30 (600 µm) sieve = maximum 2.5%

c. Grade. Commercial lime slurry shall conform to one of the following two grades:

- Grade 1. The "dry solids content" shall be at least 31% by weight, of the slurry.
- Grade 2. The "dry solids content" shall be at least 35%, by weight, of the slurry.

d. Submittals. *The Contractor shall submit to the Engineer certified test results or manufacturer's certification on the quicklime or lime slurry mix to be used before construction. No work shall begin nor shall any lime or lime slurry be placed for payment until the contractor has submitted samples of the materials intended for use and the materials have been approved by the Engineer.*

155-2.3 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

155-2.4 Soil. The soil for this work shall consist of on-site materials free of roots, sod, weeds, and stones larger than 2-1/2 inches and have a sulfate content of less than 0.3%.

COMPOSITION

155-3.1 Soil-lime mixture. Lime shall be applied at 10% dry unit weight of soil for the depth of subgrade treatment as shown on the plans.

155-3.2 Tolerances. At final compaction, the lime and water content for each course of subgrade treatment shall conform to the following tolerances:

TOLERANCES

Material	Tolerance
Lime	+ 0.5%
Water	+ 2%, -0%

WEATHER LIMITATIONS

155-4.1 Weather limitation. Subgrade shall not be constructed when weather conditions detrimentally affect the quality of the materials. Lime shall not be applied unless the air temperature is at least 40°F and rising. Lime shall not be applied to soils that are frozen or contain frost. Protect completed lime-treated areas by approved methods against the detrimental effects of freezing if the air temperature falls below 35°F. Remove and replace any damaged portion of the completed soil-lime treated area with new soil-lime material in accordance with this specification.

EQUIPMENT

155-5.1 Equipment. All equipment necessary to grade, scarify, spread, mix and compact the material shall be provided. The Resident Project Representative (RPR) must approve the Contractor's proposed equipment prior to the start of the treatment.

CONSTRUCTION METHODS

155-6.1 General. This specification is to construct a subgrade consisting of a uniform lime mixture which shall be free from loose or segregated areas. The subgrade shall be of uniform density and moisture content, well mixed for its full depth, and have a smooth surface suitable for placing subsequent lifts. The Contractor shall be responsible to meet the above requirements.

Prior to any treatment, the subgrade shall be constructed as specified in Item P-152, Excavation, Subgrade and Embankment, and shaped to conform to the typical sections, lines, and grades as shown on the plans.

The mixing equipment must give visible indication at all times that it is cutting, pulverizing and mixing the material uniformly to the proper depth over the full width of the cut.

155-6.2 Application. Lime shall be uniformly spread only over an area where the initial mixing operations can be completed during the same work day. Lime shall not be applied when wind conditions are detrimental to proper application. A motor grader shall not be used to spread the lime. Adequate moisture shall be added to the cement/soil mixture to maintain the proper moisture content. Materials shall be handled, stored, and applied in accordance with all federal, state, and local requirements.

155-6.3 Mixing. The mixing procedure shall be as described below:

a. Preliminary mixing. The full depth of the treated subgrade shall be mixed with an approved mixing machine. Lime shall not be left exposed for more than six (6) hours. The mixing machine shall make two coverages. Water shall be added to the subgrade during mixing to provide a moisture content approximately 3% to 5% above the optimum moisture of the material and to ensure chemical reaction of the lime and subgrade. After mixing, the subgrade shall be lightly rolled to seal the surface and help prevent evaporation of moisture. The water content of the subgrade mixture shall be maintained at a moisture content above the optimum moisture content for a minimum of 4 to 24 hours or until the material becomes friable. During the mellowing period, the material shall be sprinkled as directed by the RPR.

b. Final mixing. After the required mellowing time, the material shall be uniformly mixed by approved methods. Any clods shall be reduced in size by blading, discing, harrowing, scarifying, or by the use of other approved pulverization methods. After curing, pulverize lime treated material until 100% of soil particles pass a one-inch (25.0 mm) sieve and 60% pass the No. 4 (4.75 mm) sieve when tested dry by laboratory sieves. If resultant mixture contains clods, reduce their size by scarifying, remixing, or pulverization to meet specified gradation.

155-6.4 Control Strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction

processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

155-6.5 Treatment Application and Depth Checks. The depth and amount of stabilization shall be measured by the Contractor with no less than 2 tests per day of material placed; test shall be witnessed by the RPR. Measurements shall be made in test holes excavated to show the full depth of mixing and the pH checked by spraying the side of the test hole with a pH indicator such as phenolphthalein. Phenolphthalein changes from clear to red between pH 8.3 and 10. The color change indicates the location of the bottom of the mixing zone. pH indicators other than phenolphthalein can be used to measure pH levels. If the pH is not at least 8.3 and/or if the depth of the treated subgrade is more than 1/2 inch deficient, additional lime treatment shall be added and the material remixed. The Contractor shall correct all such areas in a manner satisfactory to the RPR.

155-6.6 Compaction. Compaction of the mixture shall immediately follow the final mixing operation with the mixture compacted within 1 to 4 hours after final mixing. The material shall be at the moisture content specified in paragraph 155-3.2 during compaction. The field density of the compacted mixture shall be at least 93% of the maximum density as specified in paragraph 155-6.10. Perform in-place density test to determine degree of compaction between 24 and 72 hours after final compaction and the 24-hour moist cure period. If the material fails to meet the density requirements, it shall be reworked to meet the density requirements. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

155-6.7 Finishing and curing. After the final lift or course of lime-treated subgrade has been compacted, it shall be brought to the required lines and grades in accordance with the typical sections. The completed section shall then be finished by rolling, as directed by the RPR, with a pneumatic or other suitable roller sufficiently light to prevent hairline cracking. The finished surface shall not vary more than 1/2-inch when tested with a 12-foot straightedge applied parallel with and at right angles to the pavement centerline. Any variations in excess of this tolerance shall be corrected by the Contractor at the Contractor's expense in a manner satisfactory to the RPR.

The completed section shall be moist-cured for a minimum of seven (7) days before further courses are added or any traffic is permitted, unless otherwise directed by the RPR. The final lift should not be exposed for more than 14 days without protection or the placement of a base course material.

155-6.8 Maintenance. The Contractor shall protect and maintain the lime-treated subgrade from yielding until the lime-treated subgrade is covered by placement of the next lift. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meets all specification requirements. The maintenance cost shall be incidental to this item.

155-6.9 Surface tolerance. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- 1/2 inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

12/21/2018

AC 150/5370-10H

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

155-6.10 Acceptance sampling and testing. The lime treated subgrade shall be accepted for density and thickness on an area basis. Testing frequency shall be a minimum of one compaction and thickness test per 1,000 square yards of lime treated subgrade, but not less than four (4) tests per day of production. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. All testing shall be done by the Contractor's laboratory in the presence of the RPR and density test results shall be furnished upon completion to the RPR for acceptance determination.

The field density of the compacted mixture shall be at least 93% of the maximum density of laboratory specimens prepared from samples taken from the material in place. The specimens shall be compacted and tested in accordance with ASTM D698 to determine maximum density and optimum moisture content. The in-place field density shall be determined in accordance with ASTM D6938, Procedure A, direct transmission method. If the material fails to meet the density requirements, the area represented by the failed test shall be reworked to meet the density requirements. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. The thickness of the course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost. The Contractor shall replace, at his expense, material where depth tests have been taken.

155-6.11 Handling and safety. The Contractor shall obtain and enforce the lime supplier's instructions for proper safety and handling of the lime to prevent physical eye or skin contact with lime during transport or application.

METHOD OF MEASUREMENT

155-7.1 Lime-treated subgrade shall be paid for by the square yard in the completed and accepted work.

155-7.2 Lime shall be paid by the number of tons of Hydrated Lime applied at the application rate specified in paragraph 155-3.1.

a. Hydrated lime delivered to the project in dry form will be measured according to the actual tonnage either spread on the subgrade or batched on site into a slurry, whichever is applicable.

b. Quicklime delivered to the project in dry form will be measured for payment on the basis of the tons of equivalent hydrated lime using the following formula:

$$\text{Equivalent Hydrated Lime (Ca(OH)}_2\text{)} = \text{Total Quicklime (CaO)} \times 1.32$$

c. Lime delivered to the project in slurry form will be measured for payment in tons, dry weight of hydrated lime or equivalent hydrated lime in accordance with paragraph b above.

BASIS OF PAYMENT

155-8.1 Payment shall be made at the contract unit price per square yard for the lime-treated subgrade at the thickness specified. The price shall be full compensation for furnishing all material, except the lime, and for all preparation, delivering, placing and mixing these materials, and all labor, equipment, tools and incidentals necessary to complete this item.

155-8.2 Payment shall be made at the contract unit price per ton. This price shall be full compensation for furnishing, delivery, and placing this material.

Payment will be made under:

Item P-155-8.1	Lime-Treated Subgrade (12") - per square yard
Item P-155-8.2	Lime - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C51	Standard Terminology Relating to Lime and Limestone (as used by the Industry)
ASTM C977	Standard Specification for Quicklime and Hydrated Lime for Soil Stabilization
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³) (600 kN-m/m ³)
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

END OF ITEM P-155

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-208 AGGREGATE BASE COURSE

DESCRIPTION

208-1.1 This item shall consist of a base course composed of coarse aggregate bonded with fine aggregate base. It shall be constructed on a prepared subgrade or subbase course per these specifications and shall conform to the dimensions and typical cross-section shown on the plans.

MATERIALS

208-2.1 Aggregate base. The aggregate base material shall consist of both fine and coarse aggregate. Material shall be clean, sound, durable particles and fragments of stone or gravel, crushed stone, or crushed gravel mixed or blended with sand, screenings, or other materials. Materials shall be handled and stored in accordance with all federal, state, and local requirements. The aggregate shall be free from clay lumps, organic matter, or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as nearly constant and uniform as practicable. The fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve produced in crushing operations, shall be incorporated in the base material to the extent permitted by the gradation requirements. Aggregate base material requirements are listed in the following table.

AGGREGATE BASE MATERIAL REQUIREMENTS

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 50% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 60% by weight of particles with at least two fractured faces and 75% with at least one fractured face ¹	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles ²	ASTM D4791
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

208-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa. *The fraction of material passing the No. 200 (75 μ m) sieve shall not exceed two-thirds the fraction passing the No. 40 (425 μ m) sieve.*

Gradation of Aggregate Base

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances for Contractor's Final Gradation ¹ Percent
2 inch (50 mm)	100		±0
1-1/2 inch (37.5 mm)	70-100		±5
1 inch (25.0 mm)	55-85		±8
3/4 inch (19.0 mm)	50-80		±8
No. 4 (4.75 mm)	30-60		±8
No. 40 (425 µm)	10-30		±5
No. 200 (75 µm)	5-15		±3

- 1 The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

208-2.3 Sampling and testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraphs 208-2.1 and 208-2.2. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least **two** aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 208-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

208-2.4 Separation Geotextile. Not used.

CONSTRUCTION METHODS

208-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

208-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage,

the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

208-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 208-3.5, the approved material may be transported directly to the placement.

208-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course layer shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

208-3.5 Compaction. Immediately upon completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least **100%** of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D1557. The moisture content of the material during placing operations shall be within ± 2 percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

208-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

208-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at their expense.

208-3.8 Surface tolerances. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompact to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +0 and -1/2 inch of the specified grade.

208-3.9 Acceptance sampling and testing. Aggregate base course shall be accepted for density and thickness on an area basis. Two tests will be made for density and thickness for each 1200 square yards. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

208-4.1 The quantity of aggregate base course shall be measured by the number of square yards of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

208-5.1 Payment shall be made at the contract unit price per square yards for aggregate base course. This price shall be full compensation for furnishing all materials and for all operations, hauling, placing, and compacting of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-208-5.1	6" Aggregate Base Course - per square yards

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate

12/21/2018

AC 150/5370-10H

ASTM C117	Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³ (600 kN-m/m ³))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2700 kN-m/m ³))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-208

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-501 CEMENT CONCRETE PAVEMENT

DESCRIPTION

501-1.1 This work shall consist of pavement composed of cement concrete with reinforcement **or** without reinforcement constructed on a prepared underlying surface in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross-sections shown on the plans. The terms cement concrete, hydraulic cement concrete, and concrete are interchangeable in this specification.

MATERIALS

501-2.1 Aggregates.

a. Reactivity. Fine and Coarse aggregates to be used in PCC on this project shall be tested and evaluated by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and ASTM C1567. Tests must be representative of aggregate sources which will be providing material for production. ASTM C1260 and ASTM C1567 tests may be run concurrently.

(1) Coarse aggregate and fine aggregate shall be tested separately in accordance with ASTM C1260, however, the length of test shall be extended to 28 days (30 days from casting). Tests must have been completed within 6 months of the date of the concrete mix submittal.

(2) The combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

(3) If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) Concrete Research Division (CRD) C662 in lieu of ASTM C1567. If lithium nitrate admixture is used, it shall be nominal 30% $\pm$ 0.5% weight lithium nitrate in water. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

b. Fine aggregate. Grading of the fine aggregate, as delivered to the mixer, shall conform to the requirements of ASTM C33 and the parameters identified in the fine aggregate material requirements below. Fine aggregate material requirements and deleterious limits are shown in the table below.

12/21/2018

AC 150/5370-10H

Fine Aggregate Material Requirements		
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Sand Equivalent	45 minimum	ASTM D2419
Fineness Modulus (FM)	$2.50 \leq FM \leq 3.40$	ASTM C136
Limits for Deleterious Substances in Fine Aggregate for Concrete		
Clay lumps and friable particles	1.0% maximum	ASTM C142
Coal and lignite	0.5% using a medium with a density of Sp. Gr. of 2.0	ASTM C123
Total Deleterious Material	1.0% maximum	

c. Coarse aggregate. The maximum size coarse aggregate shall be 1-1/2-inch.

Aggregates delivered to the mixer shall be clean, hard, uncoated aggregates consisting of crushed stone, crushed or uncrushed gravel, air-cooled iron blast furnace slag, crushed recycled concrete pavement, or a combination. The aggregates shall have no known history of detrimental pavement staining. Steel blast furnace slag shall not be permitted. Coarse aggregate material requirements and deleterious limits are shown in the table below; washing may be required to meet aggregate requirements.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 for any size group coarser than 3/8 (9.5 mm) sieve ¹	ASTM D4791
Bulk density of slag ²	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29
D-cracking (Freeze-Thaw) ³	Durability factor ≥ 95	ASTM C666

¹ A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

² Only required if slag is specified.

³ Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification

and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

The amount of deleterious material in the coarse aggregate shall not exceed the following limits:

Limits for Deleterious Substances in Coarse Aggregate

Deleterious material	ASTM	Percentage by Mass
Clay Lumps and friable particles	ASTM C142	1.0
Material finer than No. 200 sieve (75 µm)	ASTM C117	1.0 ¹
Lightweight particles	ASTM C123 using a medium with a density of Sp. Gr. of 2.0	0.5
Chert ² (less than 2.40 Sp Gr.)	ASTM C123 using a medium with a density of Sp. Gr. of 2.40)	1.0
Total of all deleterious Material		3.0 ¹

¹ The limit for material finer than 75-µm is allowed to be increased to 1.5% for crushed aggregates consisting of dust of fracture that is essentially free from clay or shale. Test results supporting acceptance of increasing limit to 1.5% with statement indicating material is dust of fracture must be submitted with Concrete mix. Acceptable techniques to characterizing these fines include methylene blue adsorption or X-ray diffraction analysis. The total of all deleterious materials increases up to 3.5%.

² Chert and aggregates with less than 2.4 specific gravity.

³ The limit for chert may be limited to 0.1 percent by mass in areas subject to severe freeze and thaw.

d. Combined aggregate gradation. This specification is targeted for a combined aggregate gradation developed following the guidance presented in United States Air Force Engineering Technical Letter (ETL) 97-5: Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements. Base the aggregate grading upon a combination of all the aggregates (coarse and fine) to be used for the mixture proportioning. Three aggregate sizes may be required to achieve an optimized combined gradation that will produce a workable concrete mixture for its intended use. Use aggregate gradations that produce concrete mixtures with well-graded or optimized aggregate combinations. The Contractor shall submit complete mixture information necessary to calculate the volumetric components of the mixture. The combined aggregate grading shall meet the following requirements:

(1) The materials selected and the proportions used shall be such that when the Coarseness Factor (CF) and the Workability Factor (WF) are plotted on a diagram as described in paragraph 501-2.1d(4) below, the point thus determined shall fall within the parallelogram described therein.

(2) The CF shall be determined from the following equation:

$$CF = \frac{(\text{cumulative percent retained on the } 3/8 \text{ in. (9.5 mm) sieve})(100)}{(\text{cumulative percent retained on the No. 8 (2.36 mm) sieve})}$$

(3) The WF is defined as the percent passing the No. 8 (2.36 mm) sieve based on the combined gradation. However, WF shall be adjusted, upwards only, by 2.5 percentage points for each 94 pounds (42 kg) of cementitious material per cubic meter yard greater than 564 pounds per cubic yard (335 kg per cubic meter).

(4) A diagram shall be plotted using a rectangular scale with WF on the Y-axis with units from 20 (bottom) to 45 (top), and with CF on the X-axis with units from 80 (left side) to 30 (right side). On this diagram a parallelogram shall be plotted with corners at the following coordinates (CF-75, WF-28), (CF-75, WF-40), (CF-45, WF-32.5), and (CF-45, WF-44.5). If the point determined by the intersection of the computed CF and WF does not fall within the above parallelogram, the grading of each size of aggregate used and the proportions selected shall be changed as necessary. The point determined by the plotting of

the CF and WF may be adjusted during production ± 3 WF and ± 5 CF. Adjustments to gradation may not take the point outside of the parallelogram.

e. Contractors combined aggregate gradation. The Contractor shall submit their combined aggregate gradation using the following format:

Contractor's Combined Aggregate Gradation

Sieve Size	Contractor's Concrete mix Gradation (Percent passing by weight)
2 inch (50 mm)	*
1-1/2 inch (37.5 mm)	*
1 inch (25.0 mm)	*
3/4 inch (19.0 mm)	*
1/2 inch (12.5 mm)	*
3/8 inch (9.5 mm)	*
No. 4 (4.75 mm)	*
No. 8 (2.36 mm)	*
No. 16 (1.18 mm)	*
No. 30 (600 μ m)	*
No. 50 (300 μ m)	*
No. 100 (150 μ m)	*

501-2.2 Cement. Cement shall conform to the requirements of ASTM **C150** Type II.

501-2.3 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total alkali content less than 3% per ASTM C311. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the Resident Project Representative (RPR).

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

c. Raw or calcined natural pozzolan. Natural pozzolan shall be raw or calcined and conform to ASTM C618, Class N, including the optional requirements for uniformity and effectiveness in controlling Alkali-Silica reaction and shall have a loss on ignition not exceeding 6%. Class N pozzolan for use in mitigating Alkali-Silica Reactivity shall have a total available alkali content less than 3%.

501-2.4 Joint seal. The joint seal for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type specified in the plans.

501-2.5 Isolation joint filler. Premolded joint filler for isolation joints shall conform to the requirements of ~~ASTM D1751~~ or ASTM D1752, *Type II* and shall be where shown on the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint, unless otherwise specified

by the RPR. When the use of more than one piece is required for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening means satisfactory to the RPR.

501-2.6 Steel reinforcement. Reinforcing shall consist of deformed and plain carbon steel bars conforming to the requirements of ASTM A615.

501-2.7 Dowel and tie bars. Dowel bars shall be plain steel bars conforming to ASTM A615 and shall be free from burring or other deformation restricting slippage in the concrete.

a. Dowel Bars. Before delivery to the construction site each dowel bar shall be epoxy coated per ASTM A1078, Type 1, with a coating thickness after curing greater than 10 mils. Patched ends are not required for Type 1 coated dowels. The dowels shall be coated with a bond-breaker recommended by the manufacturer. Dowel sleeves or inserts are not permitted. Grout retention rings shall be fully circular metal or plastic devices capable of supporting the dowel until the grout hardens.

b. Tie Bars. Tie bars shall be deformed steel bars and conform to the requirements of ASTM A615. Tie bars designated as Grade 60 in ASTM A615 or ASTM A706 shall be used for construction requiring bent bars.

501-2.8 Water. Water used in mixing or curing shall be potable. If water is taken from other sources considered non-potable, it shall meet the requirements of ASTM C1602.

501-2.9 Material for curing concrete. Curing materials shall conform to one of the following specifications:

a. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C309, Type 2, Class A, or Class B.

b. White polyethylene film for curing concrete shall conform to the requirements of ASTM C171.

c. White burlap-polyethylene sheeting for curing concrete shall conform to the requirements of ASTM C171.

d. Waterproof paper for curing concrete shall conform to the requirements of ASTM C171.

501-2.10 Admixtures. Admixtures shall conform to the following specifications:

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entraining agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D.

c. Other admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the RPR prior to developing the concrete mix. Retarding admixtures shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating admixtures shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

d. Lithium Nitrate. The lithium admixture shall be a nominal 30% aqueous solution of Lithium Nitrate, with a density of 10 pounds/gallon (1.2 kg/L), and shall have the approximate chemical form as shown below:

Lithium Admixture

Constituent	Limit (Percent by Mass)
LiNO ₃ (Lithium Nitrate)	30 ±0.5
SO ₄ (Sulfate Ion)	0.1 (max)
Cl (Chloride Ion)	0.2 (max)
Na (Sodium Ion)	0.1 (max)
K (Potassium Ion)	0.1 (max)

The lithium nitrate admixture dispensing and mixing operations shall be verified and certified by the lithium manufacturer's representative.

501-2.11 Epoxy-resin. All epoxy-resin materials shall be two-component materials conforming to the requirements of ASTM C881, Class as appropriate for each application temperature to be encountered, except that in addition, the materials shall meet the following requirements:

- a. Material for use for embedding dowels and anchor bolts shall be Type IV, Grade 3.
- b. Material for use as patching materials for complete filling of spalls and other voids and for use in preparing epoxy resin mortar shall be Type III, Grade as approved.
- c. Material for use for injecting cracks shall be Type IV, Grade 1.
- d. Material for bonding freshly mixed Portland cement concrete or mortar or freshly mixed epoxy resin concrete or mortar to hardened concrete shall be Type V, Grade as approved.

501-2.12 Bond Breaker. Choke stone shall be an ASTM C33 Number 89 stone.

CONCRETE MIX

501-3.1. General. No concrete shall be placed until an acceptable concrete mix has been submitted to the RPR for review and the RPR has taken appropriate action. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

501-3.2 Concrete Mix Laboratory. The laboratory used to develop the concrete mix shall be accredited in accordance with ASTM C1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the concrete mix must be included in the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

501-3.3 Concrete Mix Proportions. Develop the mix using the procedures contained in Portland Cement Association (PCA) publication, "Design and Control of Concrete Mixtures." Concrete shall be proportioned to achieve a 28-day flexural strength that meets or exceeds the acceptance criteria contained in paragraph 501-6.6 for a flexural strength of **650** psi per ASTM C78.

The minimum cementitious material shall be adequate to ensure a workable, durable mix. The minimum cementitious material (cement plus fly ash, or slag cement) shall be **470** pounds per cubic yard. The ratio of water to cementitious material, including free surface moisture on the aggregates but not including moisture absorbed by the aggregates shall be between 0.38 – 0.45 by weight.

Flexural strength test specimens shall be prepared in accordance with ASTM C192 and tested in accordance with ASTM C78. At the start of the project, the Contractor shall determine an allowable slump as determined by ASTM C143 not to exceed 2 inches for slip-form placement. For fixed-form placement, the slump shall not exceed 3 inches. For hand placement, the slump shall not exceed 4 inches.

The results of the concrete mix shall include a statement giving the maximum nominal coarse aggregate size and the weights and volumes of each ingredient proportioned on a one cubic yard (meter) basis. Aggregate quantities shall be based on the mass in a saturated surface dry condition.

If a change in source(s) is made, or admixtures added or deleted from the mix, a new concrete mix must be submitted to the RPR for approval.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

501-3.4 Concrete Mix submittal. The concrete mix shall be submitted to the RPR at least 30 days prior to the start of operations. The submitted concrete mix shall not be more than 180 days old and must use the materials to be used for production for the project. Production shall not begin until the concrete mix is approved in writing by the RPR.

Each of the submitted concrete mixes (i.e, slip form, side form machine finish and side form hand finish) shall be stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items and quantities as a minimum:

- Certified material test reports for aggregate in accordance with paragraph 501-2.1. Certified reports must include all tests required; reporting each test, test method, test result, and requirement specified (criteria).
- Combined aggregate gradations and analysis; and including plots of the fine aggregate fineness modulus.
- Reactivity Test Results.
- Coarse aggregate quality test results, including deleterious materials.
- Fine aggregate quality test results, including deleterious materials.
- Mill certificates for cement and supplemental cementitious materials.
- Certified test results for all admixtures, including Lithium Nitrate if applicable.
- Specified flexural strength, slump, and air content.
- Recommended proportions/volumes for proposed mixture and trial water-cementitious materials ratio, including actual slump and air content.
- Flexural and compressive strength summaries and plots, including all individual beam and cylinder breaks.
- Correlation ratios for acceptance testing and Contractor QC testing, when applicable.
- Historical record of test results documenting production standard deviation, when applicable.

501-3.5 Cementitious materials.

a. Fly ash. When fly ash is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If fly ash is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement may be used. The slag cement, or slag cement plus fly ash if both are used, may constitute between 25 to 55% of the total cementitious material by weight.

c. Raw or calcined natural pozzolan. Natural pozzolan may be used in the concrete mix. When pozzolan is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If pozzolan is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

501-3.6 Admixtures.

a. Air-entraining admixtures. Air-entraining admixture are to be added in such a manner that will ensure uniform distribution of the agent throughout the batch. The air content of freshly mixed air-entrained concrete shall be based upon trial mixes with the materials to be used in the work adjusted to produce concrete of the required plasticity and workability. The percentage of air in the mix shall be **4.5%**. Air content shall be determined by testing in accordance with ASTM C231 for gravel and stone coarse aggregate and ASTM C173 for slag and other highly porous coarse aggregate.

b. Water-reducing admixtures. Water-reducing admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

c. Other admixtures. Set controlling, and other approved admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

d. Lithium nitrate. Lithium nitrate shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements in accordance with paragraph 501-2.10d.

CONSTRUCTION METHODS

501-4.1 Control Strip. The control strip(s) shall be to the next planned joint after the initial 250 feet of each type of pavement construction (slip-form pilot lane, slip-form fill-in lane, or fixed form). The Contractor shall demonstrate, in the presence of the RPR, that the materials, concrete mix, equipment, construction processes, and quality control processes meet the requirements of the specifications. The concrete mixture shall be extruded from the paver meeting the edge slump tolerance and with little or no finishing. Pilot, fill-in, and fixed-form control strips will be accepted separately. Minor adjustments to the mix design may be required to place an acceptable control strip. The production mix will be the adjusted mix design used to place the acceptable control strip. Upon acceptance of the control strip by the RPR, the Contractor must use the same equipment, materials, and construction methods for the remainder of concrete paving. Any adjustments to processes or materials must be approved in advance by the RPR. The acceptable control strip shall be paid for in accordance with paragraph 501-6.6.

501-4.2 Equipment. The Contractor is responsible for the proper operation and maintenance of all equipment necessary for handling materials and performing all parts of the work to meet this specification.

a. Plant and equipment. The plant and mixing equipment shall conform to the requirements of ASTM C94 and/or ASTM C685. Each truck mixer shall have attached in a prominent place a manufacturer's nameplate showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades. The truck mixers shall be examined daily for changes in condition due to accumulation of hard concrete or mortar or wear of blades. The pickup and throwover blades shall be replaced when they have worn down 3/4 inch or more. The Contractor shall have a copy of the manufacturer's design on hand showing dimensions and arrangement of blades in reference to original height and depth.

Equipment for transferring and spreading concrete from the transporting equipment to the paving lane in front of the finishing equipment shall be provided. The equipment shall be specially manufactured, self-propelled transfer equipment which will accept the concrete outside the paving lane and will spread it evenly across the paving lane in front of the paver and strike off the surface evenly to a depth which permits the paver to operate efficiently.

b. Finishing equipment.

(1) Slip-form. The standard method of constructing concrete pavements shall be with an approved slip-form paving equipment designed and operated to spread, consolidate, screed, and finish the freshly

placed concrete in one complete pass of the machine so that the end result is a dense and homogeneous pavement which is achieved with a minimum of hand finishing. The paver-finisher shall be a heavy duty, self-propelled machine designed specifically for paving and finishing high quality concrete pavements.

(2) Fixed-form. On projects requiring less than 10,000 cubic yard of concrete pavement or irregular areas at locations inaccessible to slip-form paving equipment, concrete pavement may be placed with equipment specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by the RPR. Hand screeding and float finishing may only be used on small irregular areas as allowed by the RPR.

c. Vibrators. Vibrator shall be the internal type. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation or voids. The number, spacing, and frequency shall be as necessary to provide a dense and homogeneous pavement and meet the recommendations of American Concrete Institute (ACI) 309R, Guide for Consolidation of Concrete. Adequate power to operate all vibrators shall be available on the paver. The vibrators shall be automatically controlled so that they shall be stopped as forward motion ceases. The Contractor shall provide an electronic or mechanical means to monitor vibrator status. The checks on vibrator status shall occur a minimum of two times per day or when requested by the RPR.

Hand held vibrators may only be used in irregular areas and shall meet the recommendations of ACI 309R, Guide for Consolidation of Concrete.

d. Concrete saws. The Contractor shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions. The Contractor shall provide at least one standby saw in good working order and a supply of saw blades at the site of the work at all times during sawing operations.

e. Fixed forms. Straight side fixed forms shall be made of steel and shall be furnished in sections not less than 10 feet in length. Forms shall be provided with adequate devices for secure settings so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms with battered top surfaces and bent, twisted or broken forms shall not be used. Built-up forms shall not be used, except as approved by the RPR. The top face of the form shall not vary from a true plane more than 1/8 inch in 10 feet, and the upstanding leg shall not vary more than 1/4 inch. The forms shall contain provisions for locking the ends of abutting sections together tightly for secure setting. Wood forms may be used under special conditions, when approved by the RPR. The forms shall extend the full depth of the pavement section.

501-4.3 Form setting. Forms shall be set to line and grade as shown on the plans, sufficiently in advance of the concrete placement, to ensure continuous paving operation. Forms shall be set to withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms shall be cleaned and oiled prior to the concrete placement.

501-4.4 Base surface preparation prior to placement. Any damage to the prepared base, subbase, and subgrade shall be corrected full depth by the Contractor prior to concrete placement. The underlying surface shall be entirely free of frost when concrete is placed. The prepared grade shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from concrete.

501-4.5 Handling, measuring, and batching material. Aggregate stockpiles shall be constructed and managed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Store and maintain all aggregates at a uniform moisture content prior to use. A continuous supply of materials shall be provided to the work to ensure continuous placement.

501-4.6 Mixing concrete. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time

all materials are placed into the drum until the drum is emptied into the truck. All concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C94 or ASTM C685.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators, or non-agitating trucks. The elapsed time from the addition of cementitious material to the mix until the concrete is discharged from the truck should not exceed 30 minutes when the concrete is hauled in non-agitating trucks, nor 90 minutes when the concrete is hauled in truck mixers or truck agitators. In no case shall the temperature of the concrete when placed exceed 90°F. Retempering concrete by adding water or by other means will not be permitted. With transit mixers additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements provided the addition of water is performed within 45 minutes after the initial mixing operations and provided the water/cementitious ratio specified is not exceeded.

501-4.7 Weather Limitations on mixing and placing. No concrete shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

a. Cold weather. Unless authorized in writing by the RPR, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40°F and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35°F.

The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50°F at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150°F. The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.

Curing during cold weather shall be in accordance with paragraph 501-4.13d.

b. Hot weather. During periods of hot weather when the maximum daily air temperature exceeds 85°F, the following precautions shall be taken.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90°F. The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The concrete placement shall be protected from exceeding an evaporation rate of 0.2 per hour. When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. If the Contractor's measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

Curing during hot weather shall be in accordance with paragraph 501-4.13e.

c. Temperature management program. Prior to the start of paving operation for each day of paving, the Contractor shall provide the RPR with a Temperature Management Program for the concrete to be placed to assure that uncontrolled cracking is avoided. (Federal Highway Administration HIPERPAV 3 is one example of a temperature management program.) As a minimum, the program shall address the following items:

(1) Anticipated tensile strains in the fresh concrete as related to heating and cooling of the concrete material.

(2) Anticipated weather conditions such as ambient temperatures, wind velocity, and relative humidity; and anticipated evaporation rate using Figure 19-9, PCA, Design and Control of Concrete Mixtures.

(3) Anticipated timing of initial sawing of joint.

(4) Anticipated number and type of saws to be used.

d. **Rain.** The Contractor shall have available materials for the protection of the concrete during inclement weather. Such protective materials shall consist of rolled polyethylene sheeting at least 4 mils (0.1 mm) thick of sufficient length and width to cover the plastic concrete slab and any edges. The sheeting may be mounted on either the paver or a separate movable bridge from which it can be unrolled without dragging over the plastic concrete surface. When rain appears imminent, all paving operations shall stop and all available personnel shall begin covering the surface of the unhardened concrete with the protective covering.

501-4.8 Concrete Placement. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet. The finished concrete product must be dense and homogeneous, without segregation and conforming to the standards in this specification. Backhoes and grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used. All concrete shall be consolidated without voids or segregation, including under and around all load-transfer devices, joint assembly units, and other features embedded in the pavement. Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches a flexural strength of 550 psi, based on the average of four field cured specimens per 2,000 cubic yards concrete placed. The Contractor must determine that the above minimum strengths are adequate to protect the pavement from overloads due to the construction equipment proposed for the project.

The Contractor shall have available materials for the protection of the concrete during cold, hot and/or inclement weather in accordance with paragraph 501-4.7.

a. **Slip-form construction.** The concrete shall be distributed uniformly into final position by a self-propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well-defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms. The plastic concrete shall be effectively consolidated by internal vibration with transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 feet for slip form and at the end of the dowels for the fill-in lanes. The spacing of internal units shall be uniform and shall not exceed 18 inches.

The term internal vibration means vibrating units located within the specified thickness of pavement section.

The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation, voids, or vibrator trails and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit and for a distance of at least one foot. The frequency of vibration or amplitude should be adjusted proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible and all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.

Not more than 15% of the total free edge of each 500-foot segment of pavement, or fraction thereof, shall have an edge slump exceeding 1/4 inch, and none of the free edge of the pavement shall have an edge slump exceeding 3/8 inch. (The total free edge of 500 feet of pavement will be considered the cumulative total linear measurement of pavement edge originally constructed as nonadjacent to any existing pavement; that is, 500 feet of paving lane originally constructed as a separate lane will have 1,000 feet of free edge, 500 feet of fill-in lane will have no free edge, etc.). The area affected by the downward movement of the concrete along the pavement edge shall be limited to not more than 18 inches from the edge.

When excessive edge slump cannot be corrected before the concrete has hardened, the area with excessive edge slump will be removed the full width of the slip form lane and replaced at the expense of the Contractor as directed by the RPR.

b. Fixed-form construction. Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars / dowel bars where these are specified.

Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.

Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.

Side forms shall be thoroughly cleaned and coated with a release agent each time they are used and before concrete is placed against them.

Concrete shall be spread, screed, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross-section with a minimum of handwork.

The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery. The equipment must be specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by the RPR.

Concrete for the full paving width shall be effectively consolidated by internal vibrators. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation, voids, or leaving vibrator trails.

Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.

c. Consolidation. Concrete shall be consolidated with the specified type of lane-spanning, gang-mounted, mechanical, immersion type vibrating equipment mounted in front of the paver, supplemented, in rare instances as specified, by hand-operated vibrators. The vibrators shall be inserted into the concrete to a depth that will provide the best full-depth consolidation but not closer to the underlying material than 2 inches. Vibrators shall not be used to transport or spread the concrete. For each paving train, at least one additional vibrator spud, or sufficient parts for rapid replacement and repair of vibrators shall be maintained at the paving site at all times. Any evidence of inadequate consolidation (honeycomb along the edges, large air pockets, or any other evidence) or over-consolidation (vibrator trails, segregation, or any other evidence) shall require the immediate stopping of the paving operation and adjustment of the equipment or procedures as approved by the RPR.

If a lack of consolidation of the hardened concrete is suspected by the RPR, referee testing may be required. Referee testing of hardened concrete will be performed by the RPR by cutting cores from the finished pavement after a minimum of 24 hours curing. The RPR shall visually examine the cores for evidence of lack of consolidation. Density determinations will be made by the RPR based on the water content of the core as taken. ASTM C642 shall be used for the determination of core density in the saturated-surface dry condition. When required, referee cores will be taken at the minimum rate of one for

each 500 cubic yards of pavement, or fraction. The Contractor shall be responsible for all referee testing cost if they fail to meet the required density.

The average density of the cores shall be at least 97% of the original concrete mix density, with no cores having a density of less than 96% of the original concrete mix density. Failure to meet the referee tests will be considered evidence that the minimum requirements for vibration are inadequate for the job conditions. Additional vibrating units or other means of increasing the effect of vibration shall be employed so that the density of the hardened concrete conforms to the above requirements.

501-4.9 Strike-off of concrete and placement of reinforcement. Following the placing of the concrete, it shall be struck off to conform to the cross-section shown on the plans and to an elevation that when the concrete is properly consolidated and finished, the surface of the pavement shall be at the elevation shown on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screed. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.

Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.

501-4.10 Joints. Joints shall be constructed as shown on the plans and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on the plans. Joints shall not vary more than 1/2-inch from their designated position and shall be true to line with not more than 1/4-inch variation in 10 feet. The surface across the joints shall be tested with a 12-foot straightedge as the joints are finished and any irregularities in excess of 1/4 inch shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on the plans.

a. Construction. Longitudinal construction joints shall be slip-formed or formed against side forms as shown in the plans.

Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.

b. Contraction. Contraction joints shall be installed at the locations and spacing as shown on the plans. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch wide and to the depth shown on the plans.

c. Isolation (expansion). Isolation joints shall be installed as shown on the plans. The premolded filler of the thickness as shown on the plans, shall extend for the full depth and width of the slab at the joint. The filler shall be fastened uniformly along the hardened joint face with no buckling or debris between the filler and the concrete interface, including a temporary filler for the sealant reservoir at the top of the slab. The edges of the joint shall be finished and tooled while the concrete is still plastic.

d. Dowels and Tie Bars for Joints

(1) Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth and within the tolerances in paragraph 501-4.10(f.). When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. Tie bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars, two-piece hook bolts can be installed.

(2) Dowel bars. Dowel bars shall be placed across joints in the proper horizontal and vertical alignment as shown on the plans. The dowels shall be coated with a bond-breaker or other lubricant recommended by the manufacturer and approved by the RPR. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

(3) Placing dowels and tie bars. Horizontal spacing of dowels shall be within a tolerance of $\pm 3/4$ inch. The vertical location on the face of the slab shall be within a tolerance of $\pm 1/2$ inch. The method used to install dowels shall ensure that the horizontal and vertical alignment will not be greater than $1/4$ inch per foot, except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge. The portion of each dowel intended to move within the concrete or expansion cap shall be wiped clean and coated with a thin, even film of lubricating oil or light grease before the concrete is placed. Dowels shall be installed as specified in the following subparagraphs.

(a) Contraction joints. Dowels and tie bars in longitudinal and transverse contraction joints within the paving lane shall be held securely in place by means of rigid metal frames or basket assemblies of an approved type. The basket assemblies shall be held securely in the proper location by means of suitable pins or anchors. Do not cut or crimp the dowel basket tie wires.

At the Contractor's option, dowels and tie bars in contraction joints may be installed by insertion into the plastic concrete using approved equipment and procedures per the paver manufacturer's design. Approval of installation methods will be based on the results of the control strip showing that the dowels and tie bars are installed within specified tolerances as verified by cores or non-destructive rebar location devices approved by the RPR.

(b) Construction joints. Install dowels and tie bars by the cast-in-place or the drill-and-dowel method. Installation by removing and replacing in preformed holes will not be permitted. Dowels and tie bars shall be prepared and placed across joints where indicated, correctly aligned, and securely held in the proper horizontal and vertical position during placing and finishing operations, by means of devices fastened to the forms.

(c) Joints in hardened concrete. Install dowels in hardened concrete by bonding the dowels into holes drilled into the concrete. The concrete shall have cured for seven (7) days or reached a minimum flexural strength of 450 psi before drilling begins. Holes $1/8$ inch (3 mm) greater in diameter than the dowels shall be drilled into the hardened concrete using rotary-core drills. Rotary-percussion drills may be used, provided that excessive spalling does not occur. Spalling beyond the limits of the grout retention ring will require modification of the equipment and operation. Depth of dowel hole shall be within a tolerance of $\pm 1/2$ inch of the dimension shown on the drawings. On completion of the drilling operation, the dowel hole shall be blown out with oil-free, compressed air. Dowels shall be bonded in the drilled holes using epoxy resin. Epoxy resin shall be injected at the back of the hole before installing the dowel and extruded to the collar during insertion of the dowel so as to completely fill the void around the dowel. Application by buttering the dowel will not be permitted. The dowels shall be held in alignment at the collar of the hole by means of a suitable metal or plastic grout retention ring fitted around the dowel.

e. Sawing of joints. Sawing shall commence, without regard to day or night, as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs and shall continue without interruption until all joints have been sawn. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing. Curing compound or system shall be reapplied in the initial saw-cut and maintained for the remaining cure period.

Joints shall be cut in locations as shown on the plans. The initial joint cut shall be a minimum 1/8 inch wide and to the depth shown on the plans. Prior to placement of joint sealant or seals, the top of the joint shall be widened by sawing as shown on the plans.

501-4.11 Finishing. Finishing operations shall be a continuing part of placing operations starting immediately behind the strike-off of the paver. Initial finishing shall be provided by the transverse screed or extrusion plate. The sequence of operations shall be transverse finishing, longitudinal machine floating if used, straightedge finishing, edging of joints, and then texturing. Finishing shall be by the machine method. The hand method shall be used only on isolated areas of odd slab widths or shapes and in the event of a breakdown of the mechanical finishing equipment. Supplemental hand finishing for machine finished pavement shall be kept to an absolute minimum. Any machine finishing operation which requires appreciable hand finishing, other than a moderate amount of straightedge finishing, shall be immediately stopped and proper adjustments made or the equipment replaced. Equipment, mixture, and/or procedures which produce more than 1/4 inch of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease. Compensation shall be made for surging behind the screeds or extrusion plate and settlement during hardening and care shall be taken to ensure that paving and finishing machines are properly adjusted so that the finished surface of the concrete (not just the cutting edges of the screeds) will be at the required line and grade. Finishing equipment and tools shall be maintained clean and in an approved condition. At no time shall water be added to the surface of the slab with the finishing equipment or tools, or in any other way. Fog (mist) sprays or other surface applied finishing aids specified to prevent plastic shrinkage cracking, approved by the RPR, may be used in accordance with the manufacturers requirements.

a. Machine finishing with slipform pavers. The slipform paver shall be operated so that only a very minimum of additional finishing work is required to produce pavement surfaces and edges meeting the specified tolerances. Any equipment or procedure that fails to meet these specified requirements shall immediately be replaced or modified as necessary. A self-propelled non-rotating pipe float may be used while the concrete is still plastic, to remove minor irregularities and score marks. Only one pass of the pipe float shall be allowed. Equipment, mixture, and/or procedures which produce more than 1/4 inch of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease. Remove excessive slurry from the surface with a cutting straightedge and wipe off the edge. Any slurry which does run down the vertical edges shall be immediately removed by hand, using stiff brushes or scrapers. No slurry, concrete or concrete mortar shall be used to build up along the edges of the pavement to compensate for excessive edge slump, either while the concrete is plastic or after it hardens.

b. Machine finishing with fixed forms. The machine shall be designed to straddle the forms and shall be operated to screed and consolidate the concrete. Machines that cause displacement of the forms shall be replaced. The machine shall make only one pass over each area of pavement. If the equipment and procedures do not produce a surface of uniform texture, true to grade, in one pass, the operation shall be immediately stopped and the equipment, mixture, and procedures adjusted as necessary.

c. Other types of finishing equipment. Clary screeds, other rotating tube floats, or bridge deck finishers are not allowed on mainline paving, but may be allowed on irregular or odd-shaped slabs, and near buildings or trench drains, subject to the RPR's approval.

Bridge deck finishers shall have a minimum operating weight of 7500 pounds and shall have a transversely operating carriage containing a knock-down auger and a minimum of two immersion vibrators. Vibrating screeds or pans shall be used only for isolated slabs where hand finishing is permitted as specified, and only where specifically approved.

d. Hand finishing. Hand finishing methods will not be permitted, except under the following conditions: (1) in the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade and (2) in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical.

e. Straightedge testing and surface correction. After the pavement has been struck off and while the concrete is still plastic, it shall be tested for trueness with a 12-foot finishing straightedge swung from handles capable of spanning at least one-half the width of the slab. The straightedge shall be held in contact

with the surface in successive positions parallel to the centerline and the whole area gone over from one side of the slab to the other, as necessary. Advancing shall be in successive stages of not more than one-half the length of the straightedge. Any excess water and laitance in excess of 1/8 inch thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the smoothness requirements. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross-section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

501-4.12 Surface texture. The surface of the pavement shall be finished as designated below for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. The texture shall be uniform in appearance and approximately 1/16 inch (2 mm) in depth. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the RPR.

a. Brush or broom finish. Shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface.

b. Burlap drag finish. Not used.

c. Artificial turf finish. Not used.

501-4.13 Curing. Immediately after finishing operations are completed and bleed water is gone from the surface, all exposed surfaces of the newly placed concrete shall be cured for a 7-day cure period in accordance with one of the methods below. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or lack of water to adequately take care of both curing and other requirements, shall be cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than 1/2 hour during the curing period.

When a two-saw-cut method is used to construct the contraction joint, the curing compound shall be applied to the saw-cut immediately after the initial cut has been made. The sealant reservoir shall not be sawed until after the curing period has been completed. When the one cut method is used to construct the contraction joint, the joint shall be cured with wet rope, wet rags, or wet blankets. The rags, ropes, or blankets shall be kept moist for the duration of the curing period.

a. Impervious membrane method. Curing with liquid membrane compounds should not occur until bleed and surface moisture has evaporated. All exposed surfaces of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place. The curing compound shall not be applied during rainfall. Curing compound shall be applied by mechanical sprayers under pressure at the rate of one gallon to not more than 150 square feet. The spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application, the compound shall be stirred continuously by mechanical means. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. When hand spraying is approved by the RPR, a double application rate shall be used to ensure coverage. Should the film become damaged from any cause, including sawing operations, within the required curing period, the damaged portions shall be repaired immediately with additional compound or other approved means. Upon removal of side forms, the sides of the exposed slabs shall be protected immediately to provide a curing treatment equal to that provided for the surface.

b. White burlap-polyethylene sheets. The surface of the pavement shall be entirely covered with the sheeting. The sheeting used shall be such length (or width) that it will extend at least twice the thickness of the pavement beyond the edges of the slab. The sheeting shall be placed so that the entire surface and both edges of the slab are completely covered. The sheeting shall be placed and weighted to remain in contact with the surface covered, and the covering shall be maintained fully saturated and in position for seven (7) days after the concrete has been placed.

~~**c. Water method.** The entire area shall be covered with burlap or other water absorbing material. The material shall be of sufficient thickness to retain water for adequate curing without excessive runoff. The material shall be kept wet at all times and maintained for seven (7) days. When the forms are stripped, the vertical walls shall also be kept moist. It shall be the responsibility of the Contractor to prevent ponding of the curing water on the subbase.~~

d. Concrete protection for cold weather. Maintain the concrete at a temperature of at least 50°F for a period of 72 hours after placing and at a temperature above freezing for the remainder of the 7-day curing period. The Contractor shall be responsible for the quality and strength of the concrete placed during cold weather; and any concrete damaged shall be removed and replaced at the Contractor's expense.

e. Concrete protection for hot weather. Concrete should be continuous moisture cured for the entire curing period and shall commence as soon as the surfaces are finished and continue for at least 24 hours. However, if moisture curing is not practical beyond 24 hours, the concrete surface shall be protected from drying with application of a liquid membrane-forming curing compound while the surfaces are still damp. Other curing methods may be approved by the RPR.

501-4.14 Removing forms. Unless otherwise specified, forms shall not be removed from freshly placed concrete until it has hardened sufficiently to permit removal without chipping, spalling, or tearing. After the forms have been removed, the sides of the slab shall be cured in accordance with paragraph 501-4.13.

If honeycombed areas are evident when the forms are removed, materials, placement, and consolidation methods must be reviewed and appropriate adjustments made to assure adequate consolidation at the edges of future concrete placements. Honeycombed areas that extend into the slab less than approximately 1 inch, shall be repaired with an approved grout, as directed by the RPR. Honeycombed areas that extend into the slab greater than a depth of 1 inch shall be considered as defective work and shall be removed and replaced in accordance with paragraph 501-4.19.

501-4.15 Saw-cut grooving. If shown on the plans, grooved surfaces shall be provided in accordance with the requirements of Item P-621.

501-4.16 Sealing joints. The joints in the pavement shall be sealed in accordance with Item P-605.

501-4.17 Protection of pavement. The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by the Contractor's employees and agents until accepted by the RPR. This shall include watchmen to direct traffic and the erection and maintenance of warning signs, lights, pavement bridges, crossovers, and protection of unsealed joints from intrusion of foreign material, etc. Any damage to the pavement occurring prior to final acceptance shall be repaired or the pavement replaced at the Contractor's expense.

Aggregates, rubble, or other similar construction materials shall not be placed on airfield pavements. Traffic shall be excluded from the new pavement by erecting and maintaining barricades and signs until the concrete is at least seven (7) days old, or for a longer period if directed by the RPR.

In paving intermediate lanes between newly paved pilot lanes, operation of the hauling and paving equipment will be permitted on the new pavement after the pavement has been cured for seven (7) days, the joints are protected, the concrete has attained a minimum field cured flexural strength of 450 psi (3100 kPa), and the slab edge is protected.

All new and existing pavement carrying construction traffic or equipment shall be kept clean and spillage of concrete and other materials shall be cleaned up immediately.

Damaged pavements shall be removed and replaced at the Contractor's expense. Slabs shall be removed to the full depth, width, and length of the slab.

501-4.18 Opening to construction traffic. The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C31 have attained a flexural strength of 450 pounds per square inch when tested in accordance with ASTM C78. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion

of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion.

501-4.19 Repair, removal, or replacement of slabs. New pavement slabs that are broken or contain cracks or are otherwise defective or unacceptable as defined by acceptance criteria in paragraph 501-6.6 shall be removed and replaced or repaired, as directed by the RPR, at the Contractor's expense. Spalls along joints shall be repaired as specified. Removal of partial slabs is not permitted. Removal and replacement shall be full depth, shall be full width of the slab, and the limit of removal shall be normal to the paving lane and to each original transverse joint. The RPR will determine whether cracks extend full depth of the pavement and may require cores to be drilled on the crack to determine depth of cracking. Such cores shall be have a diameter of 2 inches to 4 inches, shall be drilled by the Contractor and shall be filled by the Contractor with a well consolidated concrete mixture bonded to the walls of the hole with a bonding agent, using approved procedures. Drilling of cores and refilling holes shall be at no expense to the Owner. Repair of cracks as described in this section shall not be allowed if in the opinion of the RPR the overall condition of the pavement indicates that such repair is unlikely to achieve an acceptable and durable finished pavement. No repair of cracks shall be allowed in any panel that demonstrates segregated aggregate with an absence of coarse aggregate in the upper 1/8 inch of the pavement surface.

a. Shrinkage cracks. Shrinkage cracks which do not exceed one-third of the pavement depth shall be cleaned and either high molecular weight methacrylate (HMWM) applied; or epoxy resin (Type IV, Grade 1) pressure injected using procedures recommended by the manufacturer and approved by the RPR. Sandblasting of the surface may be required following the application of HMWM to restore skid resistance. Care shall be taken to ensure that the crack is not widened during epoxy resin injection. All epoxy resin injection shall take place in the presence of the RPR. Shrinkage cracks which exceed one-third the pavement depth shall be treated as full depth cracks in accordance with paragraphs 501-4.19b and 501-19c.

b. Slabs with cracks through interior areas. Interior area is defined as that area more than 6 inches (150 mm) from either adjacent original transverse joint. The full slab shall be removed and replaced at no cost to the Owner, when there are any full depth cracks, or cracks greater than one-third the pavement depth, that extend into the interior area.

c. Cracks close to and parallel to joints. All full-depth cracks within 6 inches either side of the joint and essentially parallel to the original joints, shall be treated as follows.

(1) Full depth cracks and original joint not cracked. The full-depth crack shall be treated as the new joint and the original joint filled with an epoxy resin.

i. Full-depth crack. The joint sealant reservoir for the crack shall be formed by sawing to a depth of 3/4 inches, $\pm 1/16$ inch, and to a width of 5/8 inch, $\pm 1/8$ inch. The crack shall be sawed with equipment specially designed to follow random cracks. Any equipment or procedure which causes raveling or spalling along the crack shall be modified or replaced to prevent raveling or spalling. The joint shall be sealed with sealant in accordance with P-605 or as directed by the RPR.

ii. Original joint. If the original joint sealant reservoir has been sawed out, the reservoir and as much of the lower saw cut as possible shall be filled with epoxy resin, Type IV, Grade 2, thoroughly tooled into the void using approved procedures.

If only the original narrow saw cut has been made, it shall be cleaned and pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures.

Where a parallel crack goes part way across paving lane and then intersects and follows the original joint which is cracked only for the remained of the width, it shall be treated as specified above for a parallel crack, and the cracked original joint shall be prepared and sealed as originally designed.

(2) Full depth cracks and original joint cracked. If there is any place in the lane width where a parallel crack and a cracked portion of the original joint overlap, the entire slab containing the crack shall be removed and replaced.

d. Removal and replacement of full slabs. Make a full depth cut perpendicular to the slab surface along all edges of the slab with a concrete saw cutting any dowels or tie-bars. Remove damaged slab

protecting adjacent pavement from damage. Damage to adjacent slabs may result in removal of additional slabs as directed by the RPR at the Contractor's expense.

The underlying material shall be repaired, re-compacted and shaped to grade.

Dowels of the size and spacing specified for other joints in similar pavement on the project shall be installed along all four (4) edges of the new slab in accordance with paragraph 501-4.10d.

Placement of concrete shall be as specified for original construction. The joints around the new slab shall be prepared and sealed as specified for original construction.

e. Spalls along joints.

(1) Spalls less than one inch wide and less than the depth of the joint sealant reservoir, shall be filled with joint sealant material.

(2) Spalls larger than one inch and/or deeper than the joint reservoir, but less than $\frac{1}{2}$ the slab depth, and less than 25% of the length of the adjacent joint shall be repaired as follows:

i. Make a vertical saw cut at least one inch (25 mm) outside the spalled area and to a depth of at least 2 inches (50 mm). Saw cuts shall be straight lines forming rectangular areas surrounding the spalled area.

ii. Remove unsound concrete and at least 1/2 inch (12 mm) of visually sound concrete between the saw cut and the joint or crack with a light chipping hammer.

iii. Clean cavity with high-pressure water jets supplemented with compressed air as needed to remove all loose material.

iv. Apply a prime coat of epoxy resin, Type III, Grade I, to the dry, cleaned surface of all sides and bottom of the cavity, except any joint face.

v. Fill the cavity with low slump concrete or mortar or with epoxy resin concrete or mortar.

vi. An insert or other bond-breaking medium shall be used to prevent bond at all joint faces.

vii. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints.

(3) Spalls deeper than 1/2 of the slab depth or spalls longer than 25% of the adjacent joint require replacement of the entire slab.

f. Diamond grinding of Concrete surfaces. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding of the hardened concrete should not be performed until the concrete is at least 14 days old and has achieved full minimum strength. Equipment that causes ravels, aggregate fractures, spalls or disturbance to the joints will not be permitted. The depth of diamond grinding shall not exceed 1/2 inch and all areas in which diamond grinding has been performed will be subject to the final pavement thickness tolerances specified.

Diamond grinding shall be performed with a machine specifically designed for diamond grinding capable of cutting a path at least 3 feet wide. The saw blades shall be 1/8-inch wide with sufficient number of flush cut blades that create grooves between 0.090 and 0.130 inches wide; and peaks and ridges approximately 1/32 inch higher than the bottom of the grinding cut. The Contractor shall determine the number and type of blades based on the hardness of the aggregate. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. All grinding shall be at the expense of the Contractor.

CONTRACTOR QUALITY CONTROL (CQC)

501-5.1 Quality control program. The Contractor shall develop a Quality Control Program in accordance with Item C-100. No partial payment will be made for materials that are subject to specific quality control requirements without an approved quality control program.

501-5.2 Contractor Quality Control (CQC). The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

501-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to this specification and as set forth in the CQCP. The testing program shall include, but not necessarily be limited to, tests for aggregate gradation, aggregate moisture content, slump, and air content. A QC Testing Plan shall be developed and approved by the RPR as part of the CQCP.

The RPR may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of concrete mixture which is rendered unfit for use due to contamination, segregation, or improper slump. Such rejection may be based on only visual inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

a. Fine aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C70 or ASTM C566.

(3) Deleterious substances. Fine aggregate as delivered to the mixer shall be tested for deleterious substances in fine aggregate for concrete as specified in paragraph 501-2.1b, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

b. Coarse Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily for each size of aggregate. Tests shall be made in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C566.

(3) Deleterious substances. Coarse aggregate as delivered to the mixer shall be tested for deleterious substances in coarse aggregate for concrete as specified in paragraph 501-2.1c, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

c. Slump. One test shall be made for each subplot. Slump tests shall be performed in accordance with ASTM C143 from material randomly sampled from material discharged from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

d. Air content. One test shall be made for each subplot. Air content tests shall be performed in accordance with ASTM C231 for gravel and stone coarse aggregate and ASTM C173 for slag or other porous coarse aggregate, from material randomly sampled from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

e. Unit weight and Yield. One test shall be made for each subplot. Unit weight and yield tests shall be in accordance with ASTM C138. The samples shall be taken in accordance with ASTM C172 and at the same time as the air content tests.

f. Temperatures. Temperatures shall be checked at least four times per lot at the job site in accordance with ASTM C1064.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot straightedge or a rolling inclinometer meeting the requirements of ASTM E2133. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer is used, the data may be evaluated using the FAA profile program, ProFAA, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet; and at the third points of paving lanes when widths of paving lanes are 20 ft or greater.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch shall be corrected with diamond grinding per paragraph 501-4.19f or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 501-6.6.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade will be evaluated prior to and after placement of the concrete surface.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet laterally. The documentation will be provided by the Contractor to the RPR by the end of the following working day.

Areas with humps or depression that exceed grade or smoothness and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch less than the

thickness specified on the plans. If these areas cannot be corrected with grinding then the slabs that are retaining water must be removed and replaced in accordance with paragraph 501-4.19d. Grinding shall be in accordance with paragraph 501-4.19f. All corrections will be at the Contractors expense.

501-5.4 Control charts. The Contractor shall maintain linear control charts for fine and coarse aggregate gradation, slump, and air content. The Contractor shall also maintain a control chart plotting the coarseness factor/workability factor from the combined gradations in accordance with paragraph 501-2.1d.

Control charts shall be posted in a location satisfactory to the RPR and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and suspension Limits, or Specification limits, applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a potential problem and the Contractor is not taking satisfactory corrective action, the RPR may halt production or acceptance of the material.

a. Fine and coarse aggregate gradation. The Contractor shall record the running average of the last five gradation tests for each control sieve on linear control charts. Superimposed on the control charts shall be the action and suspension limits. Gradation tests shall be performed by the Contractor per ASTM C136. The Contractor shall take at least two samples per lot to check the final gradation. Sampling shall be per ASTM D75 from the flowing aggregate stream or conveyor belt.

b. Slump and air content. The Contractor shall maintain linear control charts both for individual measurements and range (that is, difference between highest and lowest measurements) for slump and air content in accordance with the following Action and Suspension Limits.

c. Combined gradation. The Contractor shall maintain a control chart plotting the coarseness factor and workability factor on a chart in accordance with paragraph 501-2.1d.

Control Chart Limits¹

Control Parameter	Individual Measurements	
	Action Limit	Suspension Limit
Gradation ²	*3	*3
Coarseness Factor (CF)	±3.5	±5
Workability Factor (WF)	±2	±3
Slump	+0.5 to -1 inch (+13 to -25 mm)	+1 to -1.5 inch (+25 to -38 mm)
Air Content	±1.5%	±2.0%

¹ Control charts shall developed and maintained for each control parameter indicated.

² Control charts shall be developed and maintained for each sieve size.

³ Action and suspension limits shall be determined by the Contractor.

501-5.5 Corrective action at Suspension Limit. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of control. The CQCP shall detail what action will be taken to bring the process into control and shall contain sets of rules to gauge when a process is out of control. As a minimum, a process shall be deemed out of control and corrective action taken if any one of the following conditions exists.

a. Fine and coarse aggregate gradation. When two consecutive averages of five tests are outside of the suspension limits, immediate steps, including a halt to production, shall be taken to correct the grading.

b. Coarseness and Workability factor. When the CF or WF reaches the applicable suspension limits, the Contractor, immediate steps, including a halt to production, shall be taken to correct the CF and WF.

c. Fine and coarse aggregate moisture content. Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5%, the scale settings for the aggregate batcher and water batcher shall be adjusted.

d. Slump. The Contractor shall halt production and make appropriate adjustments whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

e. Air content. The Contractor shall halt production and adjust the amount of air-entraining admixture whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

MATERIAL ACCEPTANCE

501-6.1 Quality Assurance (QA) Acceptance sampling and testing. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section, with the exception of coring for thickness determination, will be performed by the RPR. The Contractor shall provide adequate facilities for the initial curing of beams. The Contractor shall bear the cost of providing initial curing facilities and coring and filling operations, per paragraph 501-6.5b(1).

The samples will be transported while in the molds. The curing, except for the initial cure period, will be accomplished using the immersion in saturated lime water method. During the 24 hours after molding, the temperature immediately adjacent to the specimens must be maintained in the range of 60° to 80°F, and loss of moisture from the specimens must be prevented. The specimens may be stored in tightly constructed wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or using other suitable methods, provided the temperature and moisture loss requirements are met.

501-6.2 Quality Assurance (QA) testing laboratory. Quality assurance testing organizations performing these acceptance tests will be accredited in accordance with ASTM C1077. The quality assurance laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods will be submitted to the RPR prior to start of construction.

501-6.3 Lot size. Concrete will be accepted for strength and thickness on a lot basis. A lot will consist of a day's production not to exceed 6,000 square yards. Each lot will be divided into approximately equal sublots with individual sublots between 1000 to 1500 square yards. Where three sublots are produced, they will constitute a lot. Where one or two sublots are produced, they will be incorporated into the previous or next lot. Where more than one plant is simultaneously producing concrete for the job, the lot sizes will apply separately for each plant.

501-6.4 Partial lots. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot or for overages or minor placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

Where three sublots have been produced, they will constitute a lot. Where one or two sublots have been produced, they will be incorporated into the next lot or the previous lot and the total number of sublots will be used in the acceptance criteria calculation, that is, $n=5$ or $n=6$.

501-6.5 Acceptance Sampling and Testing.

a. Strength.

(1) Sampling. One sample will be taken for each subplot from the concrete delivered to the job site. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. The concrete will be sampled in accordance with ASTM C172.

(2) Test Specimens. The RPR will be responsible for the casting, initial curing, transportation, and curing of specimens in accordance with ASTM C31. Two (2) specimens will be made from each sample and slump, air content, unit weight, and temperature tests will be conducted for each set of strength specimens. Within 24 to 48 hours, the samples will be transported from the field to the laboratory while in the molds. Samples will be cured in saturated lime water.

The strength of each specimen will be determined in accordance with ASTM C78. The strength for each subplot will be computed by averaging the results of the two test specimens representing that subplot.

(3) Acceptance. Acceptance of pavement for strength will be determined by the RPR in accordance with paragraph 501-6.6b(1). All individual strength tests within a lot will be checked for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and the remaining test values will be used to determine acceptance in accordance with paragraph 501-6.5b.

b. Pavement thickness.

(1) Sampling. One core will be taken by the Contractor for each subplot in the presence of the RPR. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. Areas, such as thickened edges, with planned variable thickness, will be excluded from sample locations.

Cores shall be a minimum 4 inch in diameter neatly cut with a core drill. The Contractor will furnish all tools, labor, and materials for cutting samples and filling the cored hole. Core holes will be filled by the Contractor with a non-shrink grout approved by the RPR within one day after sampling.

(2) Testing. The thickness of the cores will be determined by the RPR by the average caliper measurement in accordance with ASTM C174. Each core shall be photographed and the photograph included with the test report.

(3) Acceptance. Acceptance of pavement for thickness will be determined by the RPR in accordance with paragraph 501-6.6.

501-6.6 Acceptance criteria.

a. General. Acceptance will be based on the following characteristics of the completed pavement discussed in paragraph 501-6.5b:

- (1) Strength**
- (2) Thickness**
- (3) Grade**
- (4) Profilograph smoothness**
- (5) Adjustments for repairs**

Acceptance for strength, thickness, and grade, will be based on the criteria contained in accordance with paragraph 501-6.6b(1), 501-6.6b(2), and 501-6.6b(3), respectively. Acceptance for profilograph smoothness will be based on the criteria contained in paragraph 501-6.6b(4).

Production quality must achieve 90 PWL or higher to receive full payment.

Strength and thickness will be evaluated for acceptance on a lot basis using the method of estimating PWL. Production quality must achieve 90 PWL or higher to receive full pavement. The PWL will be determined in accordance with procedures specified in Item C-110.

The lower specification tolerance limit (L) for strength and thickness will be:

Lower Specification Tolerance Limit (L)

12/21/2018

AC 150/5370-10H

Strength	0.93 × strength specified in paragraph 501-3.3
Thickness	Lot Plan Thickness in inches, - 0.50 in

b. Acceptance criteria.

(1) Strength. If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(2) Thickness. If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(3) Grade. The final finished surface of the pavement of the completed project will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch vertically or 0.1 feet laterally. The documentation, stamped and signed by a licensed surveyor shall be in accordance with paragraph 501-5.3h. Payment for sublots that do not meet grade for over 25% of the subplot shall reduced by 5% and not be more than 95%.

(4) Profilograph roughness for QA Acceptance. The final profilograph shall be the full length of the project to facilitate testing of roughness between lots. The Contractor, in the presence of the RPR shall perform a profilograph roughness test on the completed project with a profilograph meeting the requirements of ASTM E1274 or a Class I inertial profiler meeting ASTM E950. Data and results shall be provided within 48 hrs of profilograph roughness tests.

The pavement shall have an average profile index less than 15 inches per mile per 1/10 mile. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate "must grind" bumps and the Profile Index for the pavement using a 0.2-inch blanking band. The bump template must span one inch with an offset of 0.4 inches. The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch equals 25 feet and a vertical scale of one inch equals one inch. Profilograph shall be performed one foot right and left of project centerline and 15 feet right and left of project centerline. Any areas that indicate "must grind" shall be corrected with diamond grinding per paragraph 501-4.19f or by removing and replacing full depth of surface course. as directed by the RPR. Where corrections are necessary, a second profilograph run shall be performed to verify that the corrections produced an average profile index of 15 inches per mile per 1/10 mile or less.

(5) Adjustments for repair. Sublots with spall repairs, crack repairs, or partial panel replacement, will be limited to no more than 95% payment.

(6) Adjustment for grinding. For sublots with grinding over 25% of a subplot, payment will be reduced 5%.

METHOD OF MEASUREMENT

501-7.1 Concrete pavement shall be measured by the number of square yards of **either** plain **or** reinforced pavement as specified in-place, completed and accepted.

BASIS OF PAYMENT

501-8.1 Payment. Payment for concrete pavement meeting all acceptance criteria as specified in paragraph 501-6.6. Acceptance Criteria shall be based on results of strength smoothness, and thickness tests. Payment for acceptable lots of concrete pavement shall be adjusted in accordance with paragraph 501-8.1a for strength and thickness; 501-8.1b for repairs; 501-8.1c for grinding; and 501-8.1d for smoothness, subject to the limitation that:

12/21/2018

AC 150/5370-10H

The total project payment for concrete pavement shall not exceed **100** percent of the product of the contract unit price and the total number of square yards of concrete pavement used in the accepted work (See Note 1 under the Price Adjustment Schedule table below).

Payment shall be full compensation for all labor, materials, tools, equipment, and incidentals required to complete the work as specified herein and on the drawings.

a. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with the Price Adjustment Schedule table below. A pay factor shall be calculated for both strength and thickness. The lot pay factor shall be the higher of the two values when calculations for both strength and thickness are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either strength or thickness is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both strength and thickness are less than 100%.

Price Adjustment Schedule¹

Percentage of Materials Within Specification Limits (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96 – 100	106
90 – 95	PWL + 10
75 – 90	0.5 PWL + 55
55 – 74	1.4 PWL – 12
Below 55	Reject ²

¹ Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment in excess of 100% shall be subject to the total project payment limitation specified in paragraph 501-8.1.

² The lot shall be removed and replaced unless, after receipt of FAA concurrence, the Owner and Contractor agree in writing that the lot will remain; the lot paid at 50% of the contract unit price; and the total project payment limitation reduced by the amount withheld for that lot.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 501-8.1. Payment in excess of 100% for accepted lots of concrete pavement shall be used to offset payment for accepted lots of concrete pavement that achieve a lot pay factor less than 100%; except for rejected lots which remain in place and/or sublots with adjustments for repairs.

b. Adjusted payment for repairs. The PWL lot pay factor shall be reduced by 5% and be no higher than 95% for sublots which contain repairs in accordance with paragraph 501-4.19 on more than 20% of the slabs within the subplot. Payment factors greater than 100 percent for the strength and thickness cannot be used to offset adjustments for repairs.

c. Adjusted payment for grinding. The PWL lot pay factor shall be reduced by 5% and be no higher than 95% for sublots with grinding over 25% of a subplot.

d. Profilograph Roughness. The Contractor will receive full payment when the profilograph average profile index is in accordance with paragraph 501-6.6b(4). When the final average profile index for the entire length of pavement does not exceed 15 inches per mile per 1/10 mile, payment will be made at the contract unit price for the completed pavement.

e. Payment. Payment shall be made under:

Item P-501-8.1 11.5" Portland Cement Concrete Pavement – per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A996	Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
ASTM A1035	Standard Specification for Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A1078	Standard Specification for Epoxy-Coated Steel Dowels for Concrete Pavement
ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate
ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement

ASTM C117	Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C123	Standard Test Method for Lightweight Particles in Aggregate
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C227	Standard Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C295	Standard Guide for Petrographic Examination of Aggregates for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregates by Drying
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing

ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C881	Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber and Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

12/21/2018**AC 150/5370-10H**

American Concrete Institute (ACI)

ACI 305R	Guide to Hot Weather Concreting
ACI 306R	Guide to Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

Federal Highway Administration (FHWA)

HIPERPAV 3, version 3.2

Portland Concrete Association (PCA)

PCA	Design and Control of Concrete Mixtures, 16 th Edition

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

CRD C662	Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

United States Air Force Engineering Technical Letter (ETL)

ETL 97-5	Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements

END ITEM P-501

ITEM P-605 JOINT SEALANTS FOR PAVEMENTS

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of ASTM D5893 Type SL.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be $25\% \pm 5\%$ larger in diameter than the nominal width of the joint.

605-2.3 Bond breaking tapes. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 Time of application. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50°F and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

Prior to beginning the sealing operation, the Contractor shall have the sealant supplier demonstrate, to the satisfaction of the Engineer, the cleaning and installation procedures for the joint sealant to be installed on the project.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, 14 days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. The Contractor must demonstrate sandblasting equipment including the air compressor, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the Resident Project Representative (RPR), that the method cleans the joint and does not damage the joint.

d. Waterblasting equipment. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with

paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

g. Cold-applied, single-component sealing equipment. The equipment for installing ASTM D5893 single component joint sealants shall consist of an extrusion pump, air compressor, following plate, hoses, and nozzle for transferring the sealant from the storage container into the joint opening. The dimension of the nozzle shall be such that the tip of the nozzle will extend into the joint to allow sealing from the bottom of the joint to the top. Maintain the initially approved equipment in good working condition, serviced in accordance with the supplier's instructions, and unaltered in any way without obtaining prior approval. Small hand-held air-powered equipment (i.e., caulking guns) may be used for small applications.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by sandblasting as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch $\pm$ 1/16 inch below the top of

12/21/2018

AC 150/5370-10H

pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing *shall not be measured for separate payment.* ~~material shall be measured by the [gallon] [pound] [linear foot] of sealant in place, completed, and accepted.~~

BASIS OF PAYMENT

605-5.1 *Joint sealing shall be considered subsidiary to the item in which it is contained.* ~~Payment for joint sealing material shall be made at the contract unit price per [gallon] [pound] [linear foot]. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D5893	Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

Advisory Circulars (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids

END ITEM P-605

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. ~~Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.~~

~~If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.~~

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
3/4 inch (19 mm)	67
1/2 inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the

material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or ASTM D1752.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to the requirements of ASTM A615.

610-2.11 Materials for curing concrete. Curing materials shall conform to ASTM C171 (Waterproof paper) or ASTM C309 (White-pigmented liquid membrane-forming compound, Type 2, Class B).

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4,000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard. The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F nor more than 100°F. The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet. Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F, follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F, follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY CONTROL (QC) ASSURANCE (QA)

610-4.1 Quality Control Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The *Contractor* RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QC QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made. This shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete

12/21/2018

AC 150/5370-10H

ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

ITEM P-620 RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint ¹				Glass Beads ²	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
Waterborne Type II	White	37925	115 ft ² /gal	Type I-A	10 lb/gal
Waterborne Type II	Yellow	33538 or 33655	115 ft ² /gal	Type I-A	10 lb/gal
Waterborne Type II	Red	31136	115 ft ² /gal	Type I-A	10 lb/gal
Waterborne Type II	Black	37038	115 ft ² /gal	N/A	N/A

¹ See paragraph 620-2.2a

² See paragraph 620-2.2b

a. Paint. Paint shall be waterborne and preformed thermoplastic (*where specified in the construction drawings*) in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

Preformed Thermoplastic Airport Pavement Markings. Markings must be composed of ester modified resins in conjunction with aggregates, pigments, and binders that have been factory produced as a finished product. The material must be impervious to degradation by aviation fuels, motor fuels, and lubricants.

(1) The markings must be able to be applied in temperatures as low as 35°F without any special storage, preheating, or treatment of the material before application.

(a) The markings must be supplied with an integral, non-reflectorized black border.

(2) Graded glass beads.

(a) The material must contain a minimum of 30% intermixed graded glass beads by weight. The intermixed beads shall conform to Federal Specification TT-B-1325D, Type I, gradation A and Federal Specification TT-B-1325D, Type IV.

(b) The material must have factory applied coated surface beads in addition to the intermixed beads at a rate of one (1) lb ($\pm 10\%$) per 10 square feet. These factory applied coated surface beads shall have a minimum of 90% true spheres, minimum refractive index of 1.50, and meet the following gradation.

Preformed Thermoplastic Bead Gradation

Size Gradation		Retained, %	Passing, %
U.S. Mesh	μm		
12	1700	0–2	98–100
14	1400	0–3.5	96.5–100
16	1180	2–25	75–98
18	1000	28–63	37–72
20	850	63–72	28–37
30	600	67–77	23–33
50	300	89–95	5–11
80	200	97–100	0–3

(3) Heating indicators. The material manufacturer shall provide a method to indicate that the material has achieved satisfactory adhesion and proper bead embedment during application and that the installation procedures have been followed.

(4) Pigments. Percent by weight.

(a) White:

Titanium Dioxide, ASTM D476, type II shall be 10% minimum.

(b) Yellow and Colors:

Titanium Dioxide, ASTM D476, type II shall be 1% minimum.

Organic yellow, other colors, and tinting as required to meet color standard.

(5) Prohibited materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant federal regulations.

(6) Daylight directional reflectance.

(a) White: The daylight directional reflectance of the white paint shall not be less than 75% (relative to magnesium oxide), when tested in accordance with ASTM E2302.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 45% (relative to magnesium oxide), when tested in accordance with ASTM E2302. The x and y values shall be consistent with the federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x—.462	x—.470	x—.479	x—.501
y—.438	y—.455	y—.428	y—.452

(7) ~~Skid resistance. The surface, with properly applied and embedded surface beads, must provide a minimum resistance value of 45 BPN when tested according to ASTM E303.~~

(8) ~~Thickness. The material must be supplied at a nominal thickness of 65 mil.~~

(9) ~~Environmental resistance. The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to aviation fuels, gasoline, and oil.~~

(10) ~~Retroreflectivity. The material, when applied in accordance with manufacturer's guidelines, must demonstrate a uniform level of nighttime retroreflection when tested in accordance to ASTM E1710.~~

(11) ~~Packaging. Packaging shall protect the material from environmental conditions until installation.~~

(12) ~~Preformed thermoplastic airport pavement marking requirements.~~

(a) ~~The markings must be a resilient thermoplastic product with uniformly distributed glass beads throughout the entire cross-sectional area. The markings must be resistant to the detrimental effects of aviation fuels, motor fuels and lubricants, hydraulic fluids, deicers, anti-icers, protective coatings, etc. Lines, legends, and symbols must be capable of being affixed to asphalt and/or Portland cement concrete pavements by the use of a large radiant heater. Colors shall be available as required.~~

(b) ~~The markings must be capable of conforming to pavement contours, breaks, and faults through the action of airport traffic at normal pavement temperatures. The markings must be capable of fully conforming to grooved pavements, including pavement grooving per advisory circular (AC) 150/5320-12, current version. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastics when heated with a heat source per manufacturer's recommendation.~~

(c) ~~Multicolored markings must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each large marking segment (typically more than 20 feet long) must be factory assembled with a compatible material and interconnected so that in the field it is not necessary to assemble the individual pieces within a marking segment. Obtaining multicolored effect by overlaying materials of different colors is not acceptable due to resulting inconsistent marking thickness and inconsistent application temperature in the marking/substrate interface.~~

(d) ~~The marking material must set up rapidly, permitting the access route to be re-opened to traffic after application.~~

(e) ~~The marking material shall have an integral color throughout the thickness of the marking material.~~

b. Reflective media. Glass beads for white, yellow *and* red paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface

temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminants that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufacturers application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. ~~A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings.~~ Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch in 50 feet, and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch or less	±1/2 inch
greater than 36 inch to 6 feet	±1 inch
greater than 6 feet to 60 feet	±2 inch
greater than 60 feet	±3 inch

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

~~To ensure minimum single-pass application time and optimum bond in the marking/substrate interface, the materials must be applied using a variable speed self-propelled mobile heater with an effective heating width of no less than 16 feet and a free span between supporting wheels of no less than 18 feet. The heater must emit thermal radiation to the marking material in such a manner that the difference in temperature of 2 inches wide linear segments in the direction of heater travel must be within 5% of the overall average temperature of the heated thermoplastic material as it exits the heater. The material must be able to be applied at ambient and pavement temperatures down to 35°F without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. A non-volatile organic content (non-VOC) sealer with a maximum applied viscosity of 250 centiPoise must be applied to the pavement shortly before the markings are applied. The supplier must enclose application instructions with each box/package.~~

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other. *The contractor shall be responsible for this test.*

12/21/2018

AC 150/5370-10H

Minimum Retro-Reflectance Values

Material	Retro-reflectance mcd/m ² /lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than ¹	100	75	10

¹ Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

~~**620-4.1a** The quantity of surface preparation shall be measured by the number of square feet of surface preparation.~~

~~**620-4.1b** The quantity of markings shall be paid for shall be measured by the number of square feet of painting.~~

~~**620-4.1c** The quantity of reflective media shall be paid for by [the number of pounds] [lump sum] of reflective media.~~

~~**620-4.1d** [The quantity of temporary markings to be paid for shall be [the number of square feet of painting] [lump sum price] performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application and complete removal of the temporary marking.] [Temporary markings not required.]~~

~~**620-4.1e** The quantity of preformed markings to be paid for shall be the number of square feet of preformed markings.~~

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

~~**620-5.1a** Payment for surface preparation shall be made at the contract price for the number of square feet of surface preparation.~~

620-5.2b Payment for markings shall be made at the contract price for the number of square feet of painting.

~~**620-5.3c** Payment for reflective media shall be made at the contract unit price for [the number of pounds of reflective media] [lump sum].~~

12/21/2018

AC 150/5370-10H

~~620-5.4d~~ Payment for temporary markings shall be made at the contract price for [the number of square feet of painting] [lump sum price]. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. [Temporary markings are not required.]

~~620-5.5e~~ Payment for preformed markings shall be made at the contract price for the number of square feet of preformed markings.

Payment will be made under:

Item P-620-5.1a	Pavement Markings (White) with Reflective Media - per square foot
Item P-620-5.1b	Pavement Markings (Yellow) with Reflective Media – per square foot
Item P-620-5.1c	Pavement Markings (Red) with Reflective Media - per square foot
Item P-620-5.1d	Pavement Markings (Black) without Reflective Media - per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40	CFR	Part 60, Appendix A-7, Method 24
		Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
		29 CFR Part 1910.1200 Hazard Communication

12/21/2018**AC 150/5370-10H**

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325DBeads (Glass Spheres) Retro-Reflective

FED SPEC TT-P-1952F Paint, Traffic and Airfield Marking, Waterborne

FED STD 595 Colors used in Government Procurement

Commercial Item Description

A-A-2886B Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1 Standards for Airport Markings

AC 150/5320-12 Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans. *All reinforced concrete pipe shall be Class III pipe unless otherwise denoted on the plans. No pick-eye holes will be allowed.*

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe

701-2.3 Concrete. Not used.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precast galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Not used.

701-2.6 Joint fillers. Not used.

701-2.7 Plastic gaskets. Not used.

701-2.8. Controlled low-strength material (CLSM). Not used.

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactory jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch or 1/2 inch for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be *number 57 stone as defined in ASTM C 33 or approved equal*. ~~loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.~~

b. Flexible pipe. ~~For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:~~

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	mm	inch	mm
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. ~~For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches. For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.~~

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.

b. Metal pipe. Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

c. PVC, Polyethylene, or Polypropylene pipe. Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

d. Fiberglass pipe. Joints and fittings shall be as detailed on the plans and in accordance with the manufacturers recommendations. [Joints shall meet the requirements of ASTM D4161 for flexible elastomeric seals.] [Enter manufacturers joint installation requirements.]

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Embedment material shall be granular as specified in the contract document and specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282, A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

701-3.5-2 Placement of Embedment Material. The embedment material shall be compacted in layers not exceeding 6 inches on each side of the pipe and shall be brought up one foot above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches and shall be brought up evenly on each side of the pipe to one foot above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

12/21/2018

AC 150/5370-10H

701-3.6 Overfill. Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

The Contractor shall use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition. The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. Each class, types and size of pipe shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2 Not used.

701-4.3 Not used.

701-4.4 Not used.

701-4.5 *The volume of bedding will not be measured for separate payment but will be considered subsidiary to pipe installation.*

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot for Each class and size of pipe.

701-5.2 Not used.

701-5.3 Not used.

701-5.4 Not used.

Payment will be made under:

Item D-701-5.1	18" Reinforced Concrete Pipe, Class III - per linear foot
Item D-701-5.2	24" Reinforced Concrete Pipe, Class III - per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement

ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage

12/21/2018**AC 150/5370-10H**

ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

END ITEM D-701

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 Brick. ~~The brick shall conform to the requirements of ASTM C32, Grade MS.~~

751-2.2 Mortar. ~~Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.~~

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches nor more than 48 inches. There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- ~~a. ASTM A48, Class 35B: Gray iron castings~~
- ~~b. ASTM A47: Malleable iron castings~~
- ~~c. ASTM A27: Steel castings~~
- ~~d. ASTM A283, Grade D: Structural steel for grates and frames~~
- ~~e. ASTM A536, Grade 65-45-12: Ductile iron castings~~
- ~~f. ASTM A897: Austempered ductile iron castings~~

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures.

~~a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.~~

~~b. Laying brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and re-laid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.~~

~~c. Joints. All joints shall be filled with mortar at every course. Exterior faces shall be laid up in advance of backing. Exterior faces shall be plastered or parged with a coat of mortar not less than 3/8 inch thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be cut flush. Unless otherwise noted, joints shall be not less than 1/4 inch nor more than 1/2 inch wide and the selected joint width shall be maintained uniform throughout the work.~~

~~d. Pointing. Face joints shall be neatly struck, using the weather struck joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.~~

~~e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing with water. If necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of water.~~

f. Curing and cold weather protection. ~~The brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost on the brick or when the air temperature is below 50°F unless the Contractor has, on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60°F for the duration of the curing period.~~

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

12/21/2018

AC 150/5370-10H

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches.

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit, completed and accepted.

751-4.2 *Reinforcing steel shall not be measured for separate payment but shall be considered subsidiary to the structure in which it is contained.*

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	5' x 5' Airfield Rated Grate Inlet - per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36	Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

END OF ITEM D-751

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM D-752 CONCRETE CULVERTS, HEADWALLS, AND MISCELLANEOUS DRAINAGE STRUCTURES

DESCRIPTION

752-1.1 This item shall consist of reinforced concrete culverts, headwalls, and miscellaneous drainage structures constructed in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

752-2.1 Concrete. Reinforced concrete shall meet the requirements of Item P-610.

752-2.2 END SECTIONS. *Concrete end sections shall be reinforced concrete conforming to the requirements of ASTM C76 and conform to the TxDOT Standard Drawings, Precast Safety End Treatment. Reinforced concrete curtain walls are required. Jointing and bedding for end sections will be as stated for other pipe.*

CONSTRUCTION METHODS

752-3.1 Unclassified excavation.

a. Trenches and foundation pits for structures or structure footings shall be excavated to the lines and grades and elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the RPR may approve, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing steel is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to perform and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for excavation.

d. All bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage the finished concrete. The cost of removal shall be included in the unit price bid for excavation.

e. After each excavation is completed, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

752-3.2 Backfilling.

a. After a structure has been completed, backfilling with approved material shall be accomplished by applying the fill in horizontal layers not to exceed 8 inches in loose depth, and compacted. The field density of the compacted material shall be at least 90% of the maximum density for cohesive soils and 95% of the maximum density for noncohesive soils. The maximum density shall be determined in accordance with ASTM D698. The field density shall be determined in accordance with ASTM D1556.

b. No backfilling shall be placed against any structure until approved by the RPR. For concrete, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill or the placement methods.

12/21/2018

AC 150/5370-10H

c. Fill placed around concrete culverts shall be deposited on each side at the same time and to approximately the same elevation. All slopes bounding or within the areas to be backfilled shall be stepped or serrated to prevent wedge action against the structure.

d. Backfill will not be measured for direct payment. Performance of this work shall be considered as a subsidiary obligation of the Contractor, covered under the *item which it is contained*. ~~contract unit price for "unclassified excavation for structures."~~

752-3.3 Weep holes. Weep holes shall be constructed as shown on the plans.

752-3.4 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankment, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

~~**752-4.1** The quantity of unclassified excavation for structures shall be the number of cubic yards measured in original position, of material excavated in accordance with the plans, or as approved by the RPR; but in no case shall any yardage be included in the measurement for payment which is outside of a volume bounded by vertical planes 18 inches outside of and parallel to the neat lines of the footings.~~

~~**752-4.2** Concrete shall be measured by the number of cubic yards of concrete, complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or approved by the RPR. No measurements or other allowances shall be made for forms, false work, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete. No deductions in yardage shall be made for the volumes of reinforcing steel or embedded items.~~

~~**752-4.3** The quantity of reinforcing steel shall be the calculated theoretical number of pounds placed as shown on the plans, complete in place and accepted. The unit weight used for deformed bars shall be the weight of plain square or round bars, as the case may be, of equal nominal size.~~

~~**752-4.4** Concrete culverts, headwalls, and miscellaneous drainage structures shall be measured by the unit, completed in place and accepted.~~

~~**752-4.5** Reinforcing steel shall not be measured for separate payment but shall be considered subsidiary to the structure in which it is contained.~~

BASIS OF PAYMENT

~~**752-5.1** Payment will be made at the contract unit price per cubic yard for unclassified excavation for structures.~~

~~**752-5.2** Payment will be made at the contract unit price per cubic yard for concrete for the structures.~~

~~**752-5.3** Payment will be made at the contract unit price per pound for reinforcing steel.~~

~~**752-5.4** Payment will be made at the contract unit price per each for concrete culverts, headwalls, and miscellaneous drainage structures. These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and placing the materials, furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plan; and for all labor, equipment, tools, and incidentals necessary to complete the structure.~~

Payment will be made under:

Item D-752-5.1 24" Reinforced Concrete Safety End Treatment — per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft ³ (600 kN-m/m ³))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-752

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM T-901 SEEDING**DESCRIPTION**

901-1.1 This item shall consist of soil preparation, seeding, fertilizing, and liming the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as specified in the *TxDOT Standard Specification, Item 164 – Seeding for Erosion Control*. follows:

Seed Properties and Rate of Application

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb/acre (or lb/1,000 S.F.)
*	*	*	*
*	*	*	*

Seeding shall be performed during the period between [] and [] inclusive, unless otherwise approved by the RPR.

901-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 µm) mesh sieve and 50% will pass through a No. 100 (150 µm) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate *specified by the tests furnished in T-905* of []. All liming materials shall conform to the requirements of ASTM C602.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 600 lbs/acre. *Contractor may utilize another commercial fertilizer and apply at a rate equal to at least 60 lbs of nitrogen per acre.*

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches as a result of grading operations and, if immediately prior to seeding, the top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches. Clods shall be broken and the top 3 inches of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons over the entire range of the

tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 lb / sq inches. The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds of lime shall be added to and mixed with each 100 gallons of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds of these combined solids shall be added to and mixed with each 100 gallons of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches, after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

12/21/2018

AC 150/5370-10H

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of acres measured on the ground surface, completed and accepted. *Seeding shall be measured to the nearest tenth (0.1) of an acre. Lime and fertilizer will not be measured for separate payment but will be considered subsidiary to seeding.*

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per acre or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901-5.1	Seeding - per acre

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602	Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC	JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

ITEM T-904 SODDING

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

904-2.1 Sod. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the *TxDOT Standard Specifications, Item 162 – Sodding for Erosion Control* ~~special provisions~~, and any vegetation more than 6 inches in height shall be mowed to a height of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the *TxDOT Standard Specifications, Item 162 – Sodding for Erosion Control*. ~~special provisions~~. *Type of sod shall be the type specified in the Standard Specifications, Item 162.*

904-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 µm) mesh sieve and 50% will pass through a No. 100 (150 µm) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate *specified by the tests furnished in T-905 of []*. All liming materials shall conform to the requirements of ASTM C602.

904-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 600 lbs/acre.

Contractor can utilize another commercial fertilizer and apply at a rate equal to at least 60 lbs of nitrogen per acre.

904-2.4 Water. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 General. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 Preparing the ground surface. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 Applying fertilizer and ground limestone. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches by discing, raking, or other suitable methods. Any stones larger than 2 inches in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 Obtaining and delivering sod. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 Laying sod. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch below the pavement edge. Where the flow will be over the

12/21/2018

AC 150/5370-10H

sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches in length and have a cross-sectional area of not less than 3/4 sq inch. The pegs shall be driven flush with the surface of the sod.

904-3.6 Watering. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 Establishing turf. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 Repairing. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1	Sodding - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602	Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM T-905 TOPSOIL

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (75 μ m) sieve as determined by the wash test in accordance with ASTM C117. *Topsoil testing shall be completed and paid for by the Contractor.*

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 4 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turving operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site *or off site* shall be measured by the *area in square yards of the specified thickness of topsoil rehandled and placed from the topsoil stockpiled under Item P-152-2.14 as accepted by the RPR. Topsoiling measured for payment shall only be the planned limits of construction.* ~~number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

905-4.2 Topsoil obtained off the site shall be measured by the number of *square yards at the specified thickness* ~~cubic yards of topsoil measured in its final original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per *square yard of the specified thickness* ~~cubic yard~~ for topsoil (obtained on the site *or off site*). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.2 Payment will be made at the contract unit price per *square yard of the specified thickness* ~~cubic yard~~ for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

12/21/2018**AC 150/5370-10H**

Payment will be made under:

Item T-905-5.1 Topsoil (Obtained On-Site or Off-Site 4" Thickness) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117 Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY LEFT BLANK

ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. ~~Conductors for use on 20 ampere primary airfield~~

~~lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 [Type B][Type C], 5,000 volts, non-shielded, with [ethylene propylene insulation][cross-linked polyethylene insulation].~~ L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. ~~For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.~~

Ground rods shall be copper. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet long and 3/4 inch in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal are acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a

thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual. Refer to specification SS-300 for additional megger testing requirements.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to

carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches. Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill material may alternatively be used. *The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under subsidiary to the respective trenching or conduit or duct bank pay item.*

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables; be 3 deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. This layer shall not be compacted. The second layer shall be 5 inches deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the direct-buried cable or the counterpoise wire if present. A 3-6 inch wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the sodding and seeding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet square and 4-6 inch thick, extending approximately one inch above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches high and 3 inches wide, with width of stroke 1/2 inch and 1/4 inch deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The

Contractor shall impress the word "SPlice" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminants prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean

all surfaces at least 1/4 inch beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid No. 6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. – The counterpoise size is shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron – touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. The counterpoise is centered over the cable/conduit/duct to be protected.

The counterpoise conductor shall be installed no less than 8 inches minimum or 12 inches maximum above the raceway or cable to be protected, except as permitted below:

(1) The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.

(2) The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection, (45 degrees on each side of vertical creating a 90 degree angle).

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

b. Isolation – Not used

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. ~~Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.~~

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter.

12/21/2018

AC 150/5370-10H

The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 500 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Trenching shall be measured by the linear feet of trench, including the excavation, backfill, and restoration, completed, measured as excavated, and accepted as satisfactory. When specified, separate measurement shall be made for trenches of various specified widths.

The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall include additional quantities required for slack.

108-4.3 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

12/21/2018

AC 150/5370-10H

Payment will be made under:

Item L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per Linear Foot
Item L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations - per Linear Foot
Item L-108-5.3	Trenching for Direct-Buried Bare Counterpoise Wire, 8" Minimum Depth – per Linear Foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive
MIL-P-21035	<i>Paint High Zinc Duct Content, Galvanizing Repair</i>

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

12/21/2018**AC 150/5370-10H**

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and
Earth Surface Potentials of a Ground System

Federal Aviation Administration Standard

FAA STD-019E Lightning and Surge Protection, Grounding Bonding and Shielding
Requirements for Facilities and Electronic Equipment

END OF ITEM L-108

ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. ~~Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing on steel shall be coated with 10 mills of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."~~

110-2.3 Plastic conduit. Plastic conduit and fittings shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- a. Type I—Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.
- c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.
- d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

~~**110-2.8 Flowable backfill.** Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.~~

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches per 100 feet. On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches below the

subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet.

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill may alternatively be used. *The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under [Item P-152] [subsidiary to the respective trenching or conduit or duct bank pay item].*

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet beyond the edges of the pavement or 3 feet beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches apart measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the

plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches wide tape, 8 inches minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch wide tape only for single conduit runs. Utilize the 6-inch wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches nor more than 12 inches wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet square and 4 - 6 inches thick extending approximately one inch above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint,

12/21/2018

AC 150/5370-10H

as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches high and 3 inches wide with width of stroke 1/2 inch and 1/4 inch deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include seeding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Jack Brooks Regional Airport shall have the first right of refusal for any copper cable removed from the airfield during the project.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

12/21/2018

AC 150/5370-10H

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Non-Encased Electrical Conduit, 1-Way 2-inch - per Linear Foot
Item L-110-5.2	Concrete Encased Electrical Duct Bank, 2-Way 2-inch – per Linear Foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY BLANK

ITEM L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 100,000 lb. aircraft *wheel* loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch thickness for L-867 and 3/4-inch thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

- a. ASTM A48 Gray iron castings
- b. ASTM A47 Malleable iron castings
- c. ASTM A27 Steel castings
- d. ASTM A283, Grade D Structural steel for grates and frames
- e. ASTM A536 Ductile iron castings
- f. ASTM A897 Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 250 psi and maximum *aircraft* load of 100,000 lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

12/21/2018

AC 150/5370-10H

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low-Strength Material.

115-2.12 Cable trays. Cable trays shall be of ~~[galvanized steel][plastic][aluminum]~~. Cable trays shall be located as shown on the plans.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7-strand, 1/2-inch diameter with an ultimate strength of 270,000 psi). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.16 Ground rods. Ground rods shall be one piece, copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet long nor less than 5/8 inch in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of ladders. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches above the floor. The ground rod shall be installed within one foot of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

~~**115-3.13 Manhole elevation adjustments.** The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.~~

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing

~~**115-4.2 Manhole elevation adjustments** shall be measured by the completed unit installed, in place, completed, and accepted. Separate measurement shall not be made for the various types and sizes.~~

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

115-5.2 Payment shall be made at the contract unit price for manhole elevation adjustments. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, backfill, topsoil, sodding and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

Payment will be made under:

Item L-115-5.1	2-Can Junction Can Plaza - Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits

12/21/2018

AC 150/5370-10H

AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

END OF ITEM L-115

12/21/2018

AC 150/5370-10H

PAGE INTENTIONALLY BLANK

ITEM L-125 INSTALLATION OF AIRPORT LIGHTING SYSTEMS

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

EQUIPMENT AND MATERIALS

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

12/21/2018

AC 150/5370-10H

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861T(L)	2	1	N/A	4	L-867B	Blue	L-830-16	N/A

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Type	Size	Style	Class	Mode	Notes
L-858(L)	2	2	2	2	N/A

125-2.9 Runway End Identifier Light (REIL). Not required.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. ~~The circuit selector cabinet shall meet the requirements of AC 150/5345-5, Type L-847, [one][two][three][four] circuit control [as indicated], Class [A, indoor][B, outdoor], Rating [1, for 6.6 amperes][2, for 20 amperes].~~ *Not Required.*

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

See the Supplemental Specifications for additional equipment installation, mounting, and testing requirements.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Reflective markers will be measured by the number installed as completed units in place, ready for operation, and accepted by the RPR. Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR. Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR. Runway End Identifier Lights shall be measured by each system *lump sum* installed as a completed unit in place, ready for operation, and accepted by the RPR.

Precision Approach Path Indicator shall be measured by each system *lump sum* installed as a completed unit, in place, ready for operation, and accepted by the RPR. Abbreviated Precision Approach Path Indicator shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, guidance sign, reflective marker, runway end identification light, precision approach path indicator, or abbreviated precision approach path indicator installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.1	L-861T(L) Base Mounted Taxiway Edge Light, Installed -- per Each
Item L-125-5.2	L-858(L) Base Mounted, Size 2, 1-Module Guidance Sign, Installed -- per Each
Item L-125-5.3	L-858(L) Base Mounted, Size 2, 2-Module Guidance Sign, Installed -- per Each
Item L-125-5.4	L-858(L) Base Mounted, Size 2, 3-Module Guidance Sign, Installed -- per Each
Item L-125-5.5	Vehicular Stop Sign, Installed -- per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

12/21/2018**AC 150/5370-10H**

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

**SPECIFICATIONS AND
CONTRACT DOCUMENTS**

FOR

**JEFFERSON COUNTY, TEXAS
2021 GLO CDBG-DR DRAINAGE IMPROVEMENTS PROJECT
DRAINAGE DITCH 110-B
GLO CONTRACT NO. 20-065-121-C408**



Prepared by:

**WHITELEY  OLIVER
ENGINEERING, LLC**

**TEXAS ENGINEERING FIRM NO. F-22257
4351 CROW ROAD, BEAUMONT, TEXAS 77706
409-892-0421 | WHITELEYOLIVER.COM**

March 2022

APPROVED:

WHITELEY OLIVER ENGINEERING, LLC

BY:

Jeffrey D. Leavins, P.E.

P.E. No. 111537

TABLE OF CONTENTS

Table of Contents	1
Instructions to Bidders.....	2-3
General Conditions of Bidding and Terms of Contract	4-12
FEMA Mandated Contract Provisions	13-23
Special Requirements/Instructions	24-38
Supplementary Conditions	39-44
Bidder Information Form	45
Offer to Contract Form	46
Acceptance of Offer Form	47
Bid Form	48-53
Vendor References.....	54
Signature Page	55
Certification Regarding Lobbying	56-58
Conflict of Interest Questionnaire	59
Local Government Officer Conflict Disclosure Statement Forms (OFFICE USE ONLY)	60
Section 3 Clause	61
Equal Opportunity Guidelines for Construction Contractors (A1001)	62
GLO Contractor Proposal Certification	63
GLO Certification of Offeror Regarding Civil Right Laws and Regulations	64-65
Federal Labor Standards Provisions (HUD-4010)	66-69
Title 29 - Labor	70-74
Statement of Bidder's Qualifications	75-77
Certification of Bidder Regarding Civil Rights Laws and Regulations.....	78
Concerning Labor Standards and Prevailing Wage Rate Requirements	79-80
Certificate From Contractor Appointing Officer or Employee to Supervise Payment of Employees.....	81
HUD Complaint Register	82-90
Good Faith Effort Determination Checklist	91
Notice of Intent	92
HUB Subcontracting Participation Declaration Form	93-96
Residence Certification/Tax Form	97
House Bill 89 Verification.....	98
Senate Bill 252 Certification	99
Non-Colusion Affidavit of Prime Bidder	100
Required Contract Provisions	101-115
Bid Affidavit.....	116
Wage Rate Decision	
Technical Specifications	
Geotechnical Boring Logs	

LEGAL NOTICE
Advertisement for Invitation for Bids

March 8, 2022

Notice is hereby given that sealed bids will be accepted by the Jefferson County Purchasing Department for Invitation for Bid **(IFB 22-014/JW) Drainage Improvements for Drainage Ditch No. 110-B CDBG-DR (Community Development Block Grant – Disaster Recovery) Program Project for Jefferson County**. Specifications for this project may be obtained from the Jefferson County website, <https://www.co.jefferson.tx.us/Purchasing/> or by calling 409-835-8593.

Bids are to be sealed and addressed to the Purchasing Agent with the bid number and name marked on the outside of the envelope or box. Bidders shall forward an original and three (3) copies of their bid to the address shown below. Jefferson County does not accept bids submitted electronically. Late bids will be rejected as non-responsive. Bids will be publicly opened and read aloud in the Jefferson County Engineering Department Conference Room (5th Floor, Historic Courthouse) 1149 Pearl Street, Beaumont, Texas 77701, at the time and date below. Bidders are invited to attend the sealed bid opening.

**BID NAME: Drainage Improvements for Drainage Ditch No. 110-B CDBG-DR
 (Community Development Block Grant – Disaster Recovery) Program Project for Jefferson County**

BID NUMBER: IFB 22-014/JW

DUE BY TIME/DATE: 11:00 AM CT, Wednesday, April 6, 2022

**MAIL OR DELIVER TO: Jefferson County Purchasing Department
 1149 Pearl Street, 1st Floor
 Beaumont, Texas 77701**

There will be a **Pre-Bid Conference at 10:00 AM CT on Thursday, March 17, 2022** at the Jefferson County Engineering Conference Room (5th Floor, Historic Courthouse, address noted above).

The County shall require the bidder to furnish a bid security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas. Within ten (10) days after the date of the signing of a contract, the bidder shall furnish a performance bond to the County for the full amount of the contract, if the contract exceeds one hundred thousand dollars (\$100,000). If the contract is for one hundred thousand dollars (\$100,000) or less, the County may provide that no money be paid to the contractor until completion and acceptance of the work or the fulfillment of the purchase obligation to the County.

Any questions relating to these bid requirements should be directed to Jamey West, Contract Specialist at 409-835-8593 or via email at: jwest@co.jefferson.tx.us

Jefferson County encourages Disadvantaged Business Enterprises (DBEs) and Historically Underutilized Businesses (HUBs) to participate in the bidding process. Jefferson County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment, or the provisions of services. Individuals requiring special accommodations are requested to contact our office at least seven (7) days prior to the bid due date (at 409-835-8593) to make appropriate arrangements.

Jefferson County reserves the right to accept or reject any or all proposals, to waive technicalities and to take whatever action is in the best interest of Jefferson County. All interested firms are invited to submit a bid in accordance with the terms and conditions stated in this bid.

Bidders are strongly encouraged to carefully read the entire invitation.



Deborah L. Clark, Purchasing Agent
 Jefferson County, Texas

PUBLISH:

Beaumont Enterprise & Port Arthur News:
 March 9, 2022 and March 16, 2022

BID SUBMISSIONS:

Bidder is responsible for submitting: One (1) original and three (3) bid copies; with all copies to include a completed copy of this specifications packet, in its entirety.

Additionally, Bidder shall monitor the Jefferson County Purchasing Department Website for any addenda, additional instructions, or bid updates. <https://www.co.jefferson.tx.us/Purchasing/>

Failure to return all required documentation could result in a response being declared as non-responsive.

SECTION 1: GENERAL CONDITIONS OF BIDDING AND TERMS OF CONTRACT

By execution of this document, the Vendor accepts all general and special conditions of the contract as outlined below and, in the specifications, and plans.

1. BIDDING

1.1 BIDS.

All bids must be submitted on the bid form furnished in this package.

1.2 AUTHORIZED SIGNATURES.

The bid must be executed personally by the Vendor, duly authorized partner of the partnership, or duly authorized officer of the corporation. If executed by an agent, a power of attorney or other evidence of authority to act on behalf of the Vendor shall accompany the bid to become a valid bid.

1.3 LATE BIDS.

Bids must be in the office of the Jefferson County Purchasing Agent before or at the specified time and date bids are due. Bids received after the submission deadline shall be rejected as non-responsive and returned unopened.

1.4 WITHDRAWAL OF BID PRIOR TO OPENING.

A bid may be withdrawn before the opening date by submitting a written request to the Purchasing Agent. If time allows, the Bidder may submit a new bid. Bidder assumes full responsibility for submitting a new bid before or at the specified time and date bids are due. Jefferson County reserves the right to withdraw a request for bids before the opening date.

1.5 WITHDRAWAL OF BID AFTER OPENING.

Bidder agrees that its offer may not be withdrawn or cancelled by the Vendor for a period of ninety (90) days following the date and time designated for the receipt of bids unless otherwise stated in the bid and/or specifications.

1.6 BID AMOUNTS.

Bids shall show net prices, extensions where applicable and net total. In case of conflict between unit price and extension, the unit price will govern. Any ambiguity in the bid as a result of omission, error, unintelligible or illegible wording shall be interpreted in the favor of Jefferson County.

1.7 EXCEPTIONS AND/OR SUBSTITUTIONS.

All bids meeting the intent of the specifications and plans will be considered for award. Vendors taking exception to the specifications and plans, or offering substitutions, shall state these exceptions in the section provided. If bid is made on an article other than the one specified, which a Bidder considers comparable, the name and grade of said article must be specified in the bid and sufficient specifications and descriptive data must accompany same to permit thorough evaluation. The absence of stated exceptions and/or substitutions shall indicate that the Vendor has not taken any exceptions to the specifications and shall be responsible to perform in strict accordance with the specifications. As a matter of practice, Jefferson County rejects exception(s) and /or substitutions as non-responsive but reserves the right to accept any and/or all of the exception(s) and/or substitution(s) deemed to be in the best interest of Jefferson County.

1.8 ALTERNATES

The Invitation for Bid and/or specifications may expressly allow Bidder to submit an alternate bid. Presence of such an offer shall not be considered an indication of non-responsiveness.

1.9 DESCRIPTIONS

Unless otherwise specified, any reference to make, manufacturer and/or model used in the bid specifications is merely descriptive and not restrictive, and is used only to indicate type, style, or quality of material desired.

1.10 BID ALTERATIONS.

Bids cannot be altered or amended after submission deadline. Any interlineations, alterations, or erasures made

before opening time must be initialed by the signer of the bid, guaranteeing authenticity.

1.11 TAX EXEMPT STATUS.

Jefferson County is exempt from federal excise tax and state sales tax. Unless the bid form or specifications specifically indicate otherwise, the bid price must be net, exclusive of above-mentioned taxes and will be so construed. Therefore, the bid price shall not include taxes.

1.12 QUANTITIES.

Quantities indicated are estimated quantities only and are not a commitment to buy. Approximate usage does not constitute an order, but only implies the probable quantity that will be used. Commodities will be ordered on an as-needed basis. Bidder is responsible for accurate final counts.

1.13 BID AWARD.

Award of contract shall be made to the most responsible, responsive Bidder, whose offer is determined to be the best value, taking into consideration the relative importance of price. Jefferson County reserves the right to be the sole judge as to whether items bid will serve the purpose intended.

Jefferson County reserves the right to accept or reject in part or in whole any bid submitted, and to waive any technicalities or informalities for the best interest of the County. Jefferson County reserves the right to award based upon individual line items, sections or total bid.

1.14 SILENCE OF SPECIFICATIONS FOR COMPLETE UNITS.

All materials, equipment and/or parts that will become a portion of the completed work, including items not specifically stated herein but, necessary to render the service(s) complete and operational per the specifications, are to be included in the bid price. Vendor may be required to furnish evidence that the service, as bid, will meet or exceed these requirements.

1.15 ADDENDA.

Any interpretations, corrections or changes to the specifications and plans will be made by addenda no later than forty-eight (48) hours prior to the bid opening. Addenda will be posted on the Purchasing web site. Vendors are responsible for monitoring the web site in order to remain informed on addenda. Vendors shall acknowledge receipt of all addenda with submission of bid.

1.16 GENERAL BID BOND/SURETY REQUIREMENTS.

Failure to furnish bid bond/surety, if requested, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.17 GENERAL INSURANCE REQUIREMENTS

Failure to furnish Affidavit of Insurance, if required in these specifications, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.18 RESPONSIVENESS.

A responsive bid shall substantially conform to the requirements of this Invitation to Bid and/or specifications contained herein. Bidders who substitute any other terms, conditions, specifications and/or requirements or who qualify their bids in such a manner as to nullify or limit their liability to the contracting entity shall have their bids deemed non-responsive. Also, bids containing any clause that would limit contracting authority shall be considered non-responsive. Examples of non-responsive bids include but shall not be limited to: a) bids that fail to conform to required delivery schedules as set forth in the bid request; b) bids with prices qualified in such a manner that the bid price cannot be determined, such as with vague wording that may include "price in effect at the time of delivery," and c) bids made contingent upon award of other bids currently under consideration.

1.19 RESPONSIBLE STANDING OF BIDDER.

To be considered for award, Bidder must at least: have the ability to obtain adequate financial resources, be able to comply with required or proposed delivery/completion schedule, have a satisfactory record of performance; have a satisfactory record of integrity and ethics, and be otherwise qualified and eligible to receive award.

1.20 CONFIDENTIAL/PROPRIETARY INFORMATION.

If any material in the bid submission is considered by Bidder to be confidential or proprietary information (including manufacturing and/or design processes exclusive to the Bidder), Bidder **must** clearly mark the applicable pages of Bidder's bid submission to indicate each claim of confidentiality. Additionally, Bidder must include a statement on company letterhead identifying all Bid Submission section(s) and page(s) that have been marked as confidential. Jefferson County will protect from public disclosure such portions of a bid, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire bid submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire bid submission subject to release under the Texas Public Information Act.

By submitting a bid, Bidder agrees to reproduction by Jefferson County, without cost or liability, of any copyrighted portions of Bidder's bid submission or other information submitted by Bidder.

1.21 PUBLIC BID OPENING.

Bidders are invited to be present at the opening of bids. After the official opening of bids, a period of not less than one week is necessary to evaluate bids. The amount of time necessary for bid evaluation may vary and is determined solely by the County. Following the bid evaluation, all bids submitted are available for public review.

2. PERFORMANCE**2.1 DESIGN, STRENGTH, AND QUALITY.**

Design, strength, and quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practices. The apparent silence of specifications and/or plans as to any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications and/or plans shall be made on the basis of this statement.

2.2 AGE AND MANUFACTURE.

All tangible goods being bid must be new and unused, unless otherwise specified, in first-class condition, of current manufacture, and furnished ready to use. All items not specifically mentioned that are required for a complete unit shall be furnished.

2.3 DELIVERY LOCATION

All deliveries will be made to the address(es) specified on the purchase order during normal working hours of 8:00 am to 4:00 pm, Monday through Friday, unless otherwise authorized by the Purchasing Agent or designee.

2.4 DELIVERY SCHEDULE.

Delivery time may be an important consideration in the evaluation of best value. The maximum number of days necessary for delivery ARO shall be stated in the space, if provided, on the bid form.

2.5 DELIVERY CHARGES.

All delivery and freight charges, F.O.B. destination shown on Jefferson County purchase order, as necessary to perform contract are to be included in the bid price.

2.6 INSTALLATION CHARGES.

All charges for assembly, installation and set-up shall be included in the bid price. Unless otherwise stated, assembly, installation and set-up will be required.

2.7 OPERATING INSTRUCTIONS AND TRAINING.

Clear and concise operating instructions and descriptive literature will be provided in English, if requested. On-site detailed training in the safe and efficient use and general maintenance of item(s) purchased shall be provided as needed at the request of Jefferson County. Instructions and training shall be at no additional cost to the County.

2.8 STORAGE.

Bidder agrees to provide storage of custom ordered materials, if requested, for up to thirty (30) calendar days.

2.9 COMPLIANCE WITH FEDERAL, STATE, COUNTY, AND LOCAL LAWS.

Bids must comply with all federal, state, county and local laws, including, but not limited to, all applicable standard safety, emission, and noise control requirements. Any vehicles or equipment shall contain all standard safety, emission, and noise control requirements required for the types and sizes of equipment at the time of their manufacture. The contractor agrees, during the performance of work or service, to comply with all applicable codes and ordinances of Jefferson County or the State of Texas as they may apply, as these laws may now read, or as they may hereafter be changed or amended.

2.10 OSHA.

The Bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful Bidder will further certify that all items furnished under this project will conform and comply with federal and State of Texas OSHA standards. The successful Bidder will agree to indemnify and hold harmless Jefferson County for any and all damages that may be assessed against the County.

2.11 PATENTS AND COPYRIGHTS.

The successful Vendor agrees to protect the County from claims involving infringements of patents and/or copyrights.

2.12 SAMPLES, DEMONSTRATIONS, AND TESTING.

At Jefferson County's request and direction, Bidder shall provide product samples and/or testing of items bid to ensure compliance with specifications. Samples, demonstrations and/or testing may be requested at any point prior to or following bid award. Samples, demonstrations and/or testing may be requested upon delivery and/or any point during the term of resulting contract. All samples (including return thereof), demonstrations, and/or testing shall be at the expense of the Bidder/Vendor.

2.13 ACCEPTABILITY.

All articles enumerated in the bid shall be subject to inspection by an officer designated for that purpose by Jefferson County. If found inferior to the quality called for, or not equal in value to the specifications, deficient in workmanship or otherwise, this fact shall be certified to the Purchasing Agent, who shall have the right to reject the whole or any part of the same. Items and/or work determined to be contrary to specifications must be replaced at the vendor's expense. Inferior items not retrieved by the vendor within thirty (30) calendar days, or an otherwise agreed upon time, shall become the property of the County. If disposal of such items warrants an expense, an amount equal to the disposal expense will be deducted from amounts payable to the vendor.

2.14 MAINTENANCE.

Maintenance required for equipment bid should be available in Jefferson County by a manufacturer authorized maintenance facility. Cost for this service shall be shown on the bid sheet as requested or on a separate sheet, as required. If Jefferson County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.

2.15 MATERIAL SAFETY DATA SHEETS.

Under the "Hazardous Communications Act," common known as the "Texas Right to Know Act," a Bidder must provide the user department, with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the Bidder to furnish this documentation, will be cause to reject any bid applying thereto.

2.16 EVALUATION.

Evaluation shall be used as a determinant as to which services are the most efficient and/or most economical for the County. It shall be based on all factors having a bearing on price and performance of the items in the user environment. All bids are subject to tabulation by the Jefferson County Purchasing Department and recommendation to Jefferson County Commissioners' Court. Compliance with all bid requirements and needs of the using department are considered in evaluating bids. Pricing is not the only criteria for making a recommendation. The Jefferson County Purchasing Department reserves the right to contact any Bidder, at any time, to clarify, verify or requirement

information with regard to this bid.

3. PURCHASE ORDERS AND PAYMENT

3.1 PURCHASE ORDERS.

A purchase order(s) shall be generated by the Jefferson County Purchasing Agent to the successful vendor. The purchase order number must appear on all itemized invoices and packing slips. The County will not be held responsible for any work orders placed and/or performed without a valid current purchase order number. Payment will be made for all services rendered and accepted by the contract administrator for which a valid invoice has been received.

3.2 INVOICES.

All invoices shall reference the Purchase Order number. Invoices shall reference the bid item number or a detailed description for each item invoiced. If an item purchased and itemized on the invoice does not correspond to an item in any of the categories awarded to the vendor, invoice shall reference the item as "N/C" to indicate that it is a non-contract item. This requirement is to assist the County in verifying contract pricing on all invoices. Payment will be made under terms of net thirty (30) days unless otherwise agreed upon by seller and the purchasing department.

3.3 PROMPT PAYMENT.

In accordance with the State of Texas Prompt Payment Act, Article 601f V.T.C.S., payment will be made after receive and acceptance by the County of the merchandise ordered and of a valid invoice. Successful Bidder(s) is required to pay subcontractors within ten (10) days after the successful Bidder receives payment from the County.

3.4 FUNDING.

Jefferson County is operated and funded on an October 1 to September 30 basis; accordingly, the County reserves the right to terminate, without liability to the County, any contract for which funding is not available.

4. CONTRACT

4.1 CONTRACT DEFINITION.

The General Conditions of Bidding and Terms of Contract, Specifications, Plans, Bidding Forms, Addenda, and any other documents made a part of this bid shall constitute the complete bid. This bid, when duly accepted by Jefferson County, shall constitute a contract equally binding between the successful Bidder and Jefferson County.

4.2 CHANGE ORDER.

No different or additional terms will become part of this contract with the exception of a change order. No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing and at the discretion and approval of Jefferson County. No change order will be binding unless signed by an authorized representative of the County and the vendor.

4.3 PRICE RE-DETERMINATION

A price re-determination may be requested at the time of annual renewal. All requests for price re-determination shall be in written form. Cause for such request, i.e., manufacturer's direct cost, postage rates, Railroad Commission rates, Federal/State minimum wage law, Federal/State unemployment taxes, F.I.C.A, Insurance Coverage Rates, etc., shall be substantiated in writing by the source of the cost increase. The Bidder's past experience of honoring contracts at the bid price will be an important consideration in the evaluation of the lowest and best bid. Jefferson County reserves the right to accept or reject any/all requests for price re-determination as it deems to be in the best interest of the County.

4.4 TERMINATION.

Jefferson County reserves the right to terminate the contract for default if the Bidder breached any of the terms therein, including warranties of Bidder or if the Bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which Jefferson County may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or service within the proper amount of time, and/or to properly perform any and all services required to Jefferson County's satisfaction and/or to

meet all other obligations and requirements. Contracts may be terminated without cause upon thirty (30) days' written notice to either party unless otherwise specified. Jefferson County reserves the right to award canceled contract to the next lowest Bidder. Bidder, in submitting this bid, agrees that Jefferson County shall not be liable to prosecution for damages in the event that the County declares the Bidder in default.

4.5 CONFLICT OF INTEREST.

Employees of the County are not permitted to maintain financial interest in, or receive payment, directly or indirectly, borrow from, lend to, invest in, or engage in any substantial financial transaction with any individual, organization, supplier, or subcontractor who does business with the County without disclosure. When conflict of interest is discovered, it shall be grounds for termination of contract.

4.6 INJURIES OR DAMAGES RESULTING FROM NEGLIGENCE.

Successful vendor shall defend, indemnify and save harmless Jefferson County and all its officers, agents and employees from all suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the successful vendor, or of any agent, employee, subcontractor or supplier in the execution of, or performance under, any contract which may result from bid award. Successful vendor shall pay any judgment with cost which may be obtained against Jefferson County growing out of such injury or damages.

4.7 INTEREST BY PUBLIC OFFICIALS.

No public official shall have interest in this contract, in accordance with Texas Local Government Code.

4.8 WARRANTY

The successful vendor shall warrant that all materials utilized in the performance of this contract shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title.

4.9 UNIFORM COMMERCIAL CODE.

The successful vendor and Jefferson County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

4.10 Venue.

This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in the County of Jefferson, Texas.

4.11 Sale, Assignment, or Transfer of Contract.

The successful vendor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written consent of Jefferson County.

4.12 Silence of Specifications.

The apparent silence of these specifications as to any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

5. REJECTION OR WITHDRAWAL

Submission of additional terms, conditions or agreements with the bid document are grounds for deeming a bid non-responsive and may result in bid rejection. Jefferson County reserves the right to reject any and all bids and to waive any informalities and minor irregularities or defects in bids. Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the time set for receipt of bids. Bids are an irrevocable offer and may not be withdrawn within 120 days after opening date.

6. EMERGENCY/DECLARED DISASTER REQUIREMENTS

In the event of an emergency or if Jefferson County is declared a disaster area, by the County, State, or Federal Government, this Acceptance of Offer may be subjected to unusual usage. Contractor shall service the county during

such an emergency or declared disaster under the same terms and conditions that apply during non-emergency/disaster conditions. The pricing as specified in this Acceptance of Offer shall apply to serving the County's needs regardless of the circumstances. If Contractor is unable to supply the services under the terms of the Acceptance of Offer, then Contractor shall provide proof of such disruption and a copy of the invoice from Contractor's supplier(s).

Additional profit margin as a result of supplying services during an emergency or declared disaster shall not be permitted. In the event that additional equipment, supplies, and materials are required during the declared disaster, additional shipping, handling and drayage fees may apply.

7. AWARD

The bid will be awarded to the responsible, responsive bidder(s) whose bid, conforming to the solicitation, will be most advantageous to Jefferson County – price and other factors considered. Unless otherwise specified in this IFB, Jefferson County reserves the right to accept a bid in whole or in part, and to award by item or by group, whichever is deemed to be in the best interest of Jefferson County. Any bidder who is in default to Jefferson County at the time of submittal of the bid shall have that bid rejected.

Jefferson County reserves the right to clarify any contractual terms with the concurrence of the Contractor; however, any substantial non-conformity in the offer, as determined by Jefferson County, shall be deemed non-responsive and the offer rejected.

In evaluating bids, Jefferson County shall consider the qualifications of the bidders, and, where applicable, operating costs, delivery time, maintenance requirements, performance data, and guarantees of materials and equipment.

In addition, Jefferson County may conduct such investigation as it deems necessary to assist in the evaluation of a bid and to establish the responsibility, qualifications, and financial ability of the bidders to fulfill the contract.

Jefferson County reserves the right to award this contract on the basis of **lowest and best bid** in accordance with the laws of the State of Texas, to waive any formality or irregularity, to make awards to more than one offeror, and/or to reject any or all bids. In the event the lowest dollar offeror meeting specifications is not awarded a contract, Offeror may appear before the Commissioners' Court and present evidence concerning Offeror responsibility after officially notifying the Office of the Purchasing Agent of Offeror's intent to appear.

8. CONTRACT

A response to an IFB is an offer to contract with Jefferson County based upon the terms, conditions, and specifications contained in the IFB. Bids do not become contracts unless and until they are executed by Jefferson County, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the contract are contained in the IFB, unless any of the terms and conditions is modified by an IFB Amendment, a Contract Amendment, or by mutually agreed terms and conditions in the contract documents.

9. WAIVER OF SUBROGATION Bidder and bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against Jefferson County as an indirect party to any suit arising out of personal or property damages resulting from bidder's performance under this agreement.

10. FISCAL FUNDING

A multi-year contract (if requested by the specifications) continuing as a result of an extension option must include fiscal funding out. If, for any reason, funds are not appropriated to continue the contract, said contract shall become null and void.

11. BID RESULTS

Bid results are not provided in response to telephone inquiries. A preliminary tabulation of bids received will be posted on the Purchasing web page at <https://www.co.jefferson.tx.us/Purchasing/> as soon as possible following bid opening. A final tabulation will be posted following bid award, and will also be available for review in the Purchasing Department.

12. CHANGES AND ADDENDA TO BID DOCUMENTS

Each change or addendum issued in relation to this IFB document will be on file in the Office of the Purchasing Agent, and will be posted on the Purchasing web site as soon as possible. It shall be the bidder's responsibility to make inquiry as to change or addenda issued, and to monitor the web site. All such changes or addenda shall become part of the contract and all bidders shall be bound by such addenda. Information on all changes or addenda issued will be available at the Office of the County Purchasing Agent.

13. SPECIFICATIONS

Unless otherwise stated by the bidder, the bid will be considered as being in accordance with Jefferson County's applicable standard specifications, and any special specifications outlined in the bid document. References to a particular trade name, manufacturer's catalogue, or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of Jefferson County, and should not be construed as excluding bids on other types of materials, equipment, and supplies. However, the bidder, if awarded a contract, will be required to furnish the particular item referred to in the specifications or description unless departure or substitution is clearly noted and described in the bid.

Jefferson County reserves the right to determine if equipment/ product being bid is an acceptable alternate. All goods shall be new unless otherwise so stated in the bid. Any unsolicited alternate bid, or any changes, insertions, or omissions to the terms and conditions, specifications, or any other requirements of the bid, may be considered non-responsive.

14. DELIVERY

Bids shall include all charges for delivery, packing, crating, containers, etc. Unless otherwise stated by the bidder (in writing on the included Bid Form), prices bid will be considered as being based on F.O.B. destination/delivered freight included.

15. INTERPRETATION OF BID AN/OR CONTRACT DOCUMENTS

All inquiries shall be made within a reasonable time prior to the date and time fixed for the bid opening, in order that a written response in the form of an addendum, if required, can be processed before the bids are opened. Inquiries received that are not made in a timely fashion may or may not be considered.

16. CURRENCY

Prices calculated by the bidder shall be stated in U.S. dollars.

17. PRICING

Prices shall be stated in units of quantity specified in the bid documents. In case of discrepancy in computing the amount of the bid, the unit price shall govern.

18. NOTICE TO PROCEED/PURCHASE ORDER

The successful bidder may not commence work under this contract until authorized to do so by the Purchasing Agent.

19. CERTIFICATION

By signing the offer section of the Offer and Acceptance page, Bidder certifies:

- The submission of the offer did not involve collusion or other anti-competitive practices.
- The Bidder 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 any public servant in connection with the submitted offer.
- The Bidder hereby certifies that the individual signing the bid is an authorized agent for the Bidder and has the authority to bind the Bidder to the contract.

20. DEFINITIONS

“County” – Jefferson County, Texas.

“Contractor” – The Bidder whose proposal is accepted by Jefferson County.

21. MINORITY-WOMEN BUSINESS ENTERPRISE PARTICIPATION

It is the desire of Jefferson County to increase the participation of Minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the County does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms.

**Federal Emergency Management Agency (FEMA)
MANDATED CONTRACT PROVISIONS**

1. REMEDIES

a. Standard. Contracts for more than the simplified acquisition threshold, currently set at \$250,000, 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. See 2 C.F.R. Part 200, Appendix II(A).

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

2. TERMINATION FOR CAUSE AND CONVENIENCE

a. Standard. 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. See 2 C.F.R. Part 200, Appendix II(B).

b. Applicability. This requirement applies to all FEMA grant and co-operative agreement programs.

3. EQUAL EMPLOYMENT OPPORTUNITY

If applicable, exact language below in subsection 3.d is required.

a. Standard. Except as otherwise provided under 41 C.F.R. Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. §60- 1.4(b), in accordance with Executive Order 11246, Equal Employment Opportunity (30 Fed. Reg. 12319, 12935, 3 C.F.R. 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 C.F.R. Part 60 (Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor). See 2 C.F.R. Part 200, Appendix II(C).

b. Key Definitions.

i. Federally Assisted Construction Contract. The regulation at 41 C.F.R. § 60-1.3 defines a “federally assisted construction contract” as any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.

ii. Construction Work. The regulation at 41 C.F.R. § 60-1.3 defines “construction work” as the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

c. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

d. Required Language. The regulation at 41 C.F.R. Part 60-1.4(b) requires the insertion of the following contract clause.

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 non-discrimination 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.

(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 non-compliance with the non-discrimination 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 sub-contract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or 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 applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

4. DAVIS-BACON ACT

a. Standard. All prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3144 and 3146-3148) as supplemented by Department of Labor regulations at 29 C.F.R. Part 5 (Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction). See 2 C.F.R. Part 200, Appendix II(D). 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.

b. Applicability. The Davis-Bacon Act only applies to the Emergency Management Preparedness Grant Program, Homeland Security Grant Program, Non-profit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program. It DOES NOT apply to other FEMA grant and cooperative agreement programs, including the Public Assistance Program.

c. Requirements. If applicable, the non-Federal entity must do the following:

i. 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.

ii. Additionally, pursuant 2 C.F.R. Part 200, Appendix II(D), contracts subject to the Davis-Bacon Act, 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 at 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). The Copeland Anti-Kickback 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 FEMA.

iii. Include a provision for 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").

COMPLIANCE WITH THE DAVIS-BACON ACT:

- a. All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29C.F.R.pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
- b. 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.
- c. Additionally, contractors are required to pay wages not less than once a week.

5. COPELAND ANTI-KICKBACK ACT

- a. **Standard.** Recipient and subrecipient contracts must 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").
- b. **Applicability.** This requirement applies to all contracts for construction or repair work above \$2,000 in situations where the Davis-Bacon Act also applies. It DOES NOT apply to the FEMA Public Assistance Program.
- c. **Requirements.** If applicable, the non-Federal entity must include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations at 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). 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 FEMA. Additionally, in accordance with the regulation, each contractor and subcontractor must furnish each week a statement with respect to the wages paid each of its employees engaged in work covered by the Copeland Anti-Kickback Act and the Davis Bacon Act during the preceding weekly payroll period. The report shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to a representative of a Federal or State agency in charge at the site of the building or work.

COMPLIANCE WITH THE COPELAND "ANTI-KICKBACK ACT":

- a. **Contractor.** The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- b. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by 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 clauses 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."

6. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

- a. **Standard.** Where applicable (see 40 U.S.C. §§ 3701-3708), 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 at 29 C.F.R. Part 5. See 2 C.F.R. Part

200, Appendix II(E). Under 40 U.S.C. § 3702, 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. Further, no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.

b. Applicability. This requirement applies to all FEMA contracts awarded by the non-federal entity in excess of \$100,000 under grant and cooperative agreement programs that involve the employment of mechanics or laborers. It is applicable to construction work. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

The regulation at 29 C.F.R. § 5.5(b) provides contract clause language concerning compliance with the Contract Work Hours and Safety Standards Act. FEMA suggests including the following contract clause: 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 (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 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 (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. Jefferson 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 (b)(2) of this section.

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

7. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

a. Standard. If the FEMA award meets the definition of “funding agreement” under 37C.F.R. § 401.2(a) and the non-Federal entity wishes to enter into a contract with a small business firm or non-profit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the non-Federal entity 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 FEMA. See 2 C.F.R. Part 200, Appendix II(F).

b. Applicability. This requirement applies to “funding agreements,” but it DOES NOT apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance 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. Funding Agreements Definition. The regulation at 37 C.F.R. § 401.2(a) 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.

8. CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

a. Standard. If applicable, contracts must contain a provision that requires the contractor 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 FEMA and the Regional Office of the Environmental Protection Agency. See 2 C.F.R. Part 200, Appendix II(G).

b. Applicability. This requirement applies to contracts awarded by a non-Federal entity of amounts in excess of \$150,000 under a federal grant.

CLEAN AIR ACT:

1. 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.
2. The contractor agrees to report each violation to Jefferson County and understands and agrees that the County/Grant Administration Firm Acting on Behalf of the County will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

FEDERAL WATER POLLUTION CONTROL ACT:

1. The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The contractor agrees to report each violation to Jefferson County agrees that the County/Grant Administration Firm Acting on Behalf of the County will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

9. DEBARMENT AND SUSPENSION

a. Standard. Non-Federal entities and contractors are subject to the debarment and suspension regulations implementing Executive Order 12549, Debarment and Suspension (1986) and Executive Order 12689, Debarment and

Suspension (1989) at 2 C.F.R. Part 180 and the Department of Homeland Security's regulations at 2 C.F.R. Part 3000 (Non-procurement Debarment and Suspension).

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

c. Requirements.

i. 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(H); and 2 C.F.R. § 200.213. A contract award must not be made to parties listed in the SAM Exclusions. SAM Exclusions is the list maintained by the General Services Administration that 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. SAM exclusions can be accessed at www.sam.gov. See 2 C.F.R. § 180.530.

ii. In general, an "excluded" party cannot receive a Federal grant award or a contract within the meaning of a "covered transaction," to include subawards and subcontracts. This includes parties that receive Federal funding indirectly, such as contractors to recipients and subrecipients. The key to the exclusion is whether there is a "covered transaction," which is any non-procurement transaction (unless excepted) at either a "primary" or "secondary" tier. Although "covered transactions" do not include contracts awarded by the Federal Government for purposes of the non-procurement common rule and DHS's implementing regulations, it does include some contracts awarded by recipients and subrecipients.

iii. Specifically, a covered transaction includes the following contracts for goods or services:

1. The contract is awarded by a recipient or subrecipient in the amount of at least \$25,000.

2. The contract requires the approval of FEMA, regardless of amount.

3. The contract is for federally-required audit services.

4. A subcontract is also a covered transaction if it is awarded by the contractor of a recipient or subrecipient and requires either the approval of FEMA or is in excess of \$25,000.

The following provides a debarment and suspension clause. It incorporates an optional method of verifying that contractors are not excluded or disqualified.

SUSPENSION AND DEBARMENT:

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's 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).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by the County. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the County, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

10. BYRD ANTI-LOBBYING AMENDMENT

a. Standard. 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. FEMA's regulation at 44 C.F.R. Part 18 implements the requirements of 31 U.S.C. § 1352 and provides, in Appendix A to Part 18, a copy of the certification that is required to be completed by each entity as described in 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 Federal awarding agency.

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs. Contractors that apply or bid for a contract of \$100,000 or more under a federal grant must file the required certification. See 2 C.F.R. Part 200, Appendix II(I); 31 U.S.C. § 1352; and 44 C.F.R. Part 18.

Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended) Contractors who apply or bid for an award of \$100,000 or more shall 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 connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall 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 recipient who in turn will forward the certification(s) to the awarding agency.

c. Required Certification.

If applicable, contractors must sign and submit to the non-Federal entity the **"Certification Regarding Lobbying" Form** included within these bid specifications, **PAGES 56-58**

11. PROCUREMENT OF RECOVERED MATERIALS

a. Standard. 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. See 2 C.F.R. Part 200, Appendix II(J); and 2 C.F.R. §200.322.

b. Applicability. This requirement applies to all contracts awarded by a non-Federal entity under FEMA grant and cooperative agreement programs.

c. Requirements. The requirements of Section 6002 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.

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.

Information about this requirement, along with the list of EPA designated items, is available at EPA's Comprehensive Procurement Guidelines website: <https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>.

The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

The Uniform Rules authorize FEMA to require additional provisions for non-Federal entity contracts.

Although FEMA does not currently require additional provisions, FEMA recommends the following:

1. ACCESS TO RECORDS

a. Standard. All recipients, subrecipients, successors, transferees, and assignees must acknowledge and agree to comply with applicable provisions governing DHS access to records, accounts, documents, information, facilities, and staff. Recipients must give DHS/FEMA access to, and the right to examine and copy, records, accounts, and other documents and sources of information related to the federal financial assistance award and permit access to facilities, personnel, and other individuals and information as may be necessary, as required by DHS regulations and other applicable laws or program guidance. See DHS Standard Terms and Conditions: Version 8.1 (2018). Additionally, Section 1225 of the Disaster Recovery Reform Act of 2018 prohibits FEMA from providing reimbursement to any state, local, tribal, or territorial government, or private non-profit for activities made pursuant to a contract that purports to prohibit audits or internal reviews by the FEMA administrator or Comptroller General.

ACCESS TO RECORDS:

The following access to records requirements apply to this contract:

(1) The Contractor agrees to provide the local/state/federal entity providing funding for this project, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

(2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

(3) The Contractor agrees to provide the FEMA Administrator or their representatives access to construction or other work sites pertaining to the work being completed under the contract.

(4) In compliance with the Disaster Recovery Act of 2018, the County and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

2. CHANGES

a. Standard. To be eligible for FEMA assistance under the non-Federal entity's FEMA grant or cooperative agreement, the cost of the change, modification, change order, or constructive change must be allowable, allocable, within the scope of its grant or cooperative agreement, and reasonable for the completion of project scope.

b. Applicability. FEMA recommends, therefore, that a non-Federal entity include a changes clause in its contract that describes how, if at all, changes can be made by either party to alter the method, price, or schedule of the work without breaching the contract. The language of the clause may differ depending on the nature of the contract and the end-item procured.

3. DHS SEAL, LOGO, AND FLAGS

a. Standard. Recipients must obtain permission prior to using the DHS seal(s), logos, crests, or reproductions of flags

or likenesses of DHS agency officials. See DHS Standard Terms and Conditions: Version 8.1 (2018).

b. Applicability. FEMA recommends that all non-Federal entities place in their contracts a provision that a contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

“The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.”

4. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, AND EXECUTIVE ORDERS

a. Standard. The recipient and its contractors are required to comply with all Federal laws, regulations, and executive orders.

b. Applicability. FEMA recommends that all non-Federal entities place into their contracts an acknowledgement that FEMA financial assistance will be used to fund the contract along with the requirement that the contractor will comply with all applicable Federal law, regulations, executive orders, and FEMA policies, procedures, and directives.

c. “This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.”

5. NO OBLIGATION BY FEDERAL GOVERNMENT

a. Standard. FEMA is not a party to any transaction between the recipient and its contractor. FEMA is not subject to any obligations or liable to any party for any matter relating to the contract.

b. Applicability. FEMA recommends that the non-Federal entity include a provision in its contract that states that the Federal Government is not a party to the 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.

“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.”

6. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

a. Standard. Recipients must comply with the requirements of The False Claims Act (31 U.S.C. §§ 3729-3733) which prohibits the submission of false or fraudulent claims for payment to the federal government. See DHS Standard Terms and Conditions: Version 8.1 (2018); and 31 U.S.C. §§ 3801-3812, which details the administrative remedies for false claims and statements made. The non-Federal entity must include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

b. Applicability. FEMA recommends that the non-Federal entity include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

“The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this contract.”

7. PROCUREMENT OF RECOVERED MATERIALS

a Standard.

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. See 2 C.F.R. Part 200, Appendix II(J); and 2 C.F.R. §200.322.

b Applicability.

This requirement applies to all contracts awarded by a non-federal entity under FEMA grant and cooperative agreement programs.

c Requirements.

The requirements of Section 6002 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.

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—

Competitively within a timeframe providing for compliance with the contract performance schedule;

Meeting contract performance requirements; or

At a reasonable price.

Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines website:

<https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>.

The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

SPECIAL REQUIREMENTS/BID SUBMISSION INSTRUCTIONS

The following requirements and instructions supersede General Requirements where applicable.

1. BID REQUIREMENT

Each Bidder shall ensure that required parts of the bid are completed with accuracy and submitted as per the requirements within this specifications packet, including any addenda.

Bids must be submitted in complete original form by mail or messenger to the following address:

**Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, TX 77701**

Bidder shall submit bid in a tightly sealed opaque envelope or box, plainly marked "SEALED BID." The outside of the envelope or box shall also include the Bid Number, Bid Name, Bid Due Date, and the Bidder's Name and Address; and shall be addressed to the Purchasing Agent.

Bidder is responsible for submitting: One (1) original and three (3) bid copies; with all copies to include a completed copy of this specifications packet, in its entirety.

Additionally, Bidder shall monitor the Jefferson County Purchasing Department Website for any addenda, additional instructions, or bid updates. <https://www.co.jefferson.tx.us/Purchasing/>

Failure to return all required documentation could result in a response being declared as non-responsive.

Jefferson County shall not be responsible for any effort or cost expended in the preparation of a response to this IFB.

Bids will be accepted at the above address until the time and date specified herein, and immediately after will be publicly opened and read aloud.

Late bids will not be accepted and will be returned unopened to the bidder.

All bids submitted in response to this invitation shall become the property of Jefferson County and will be a matter of public record available for review.

All protests should be coordinated through the Purchasing Office prior to award recommendation to Commissioners' Court.

2. VENDOR REGISTRATION (System for Award Management).

Vendors doing business with Jefferson County are **required** to be registered with The System for Award Management (SAM), with an "active" status. The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site. Entities may register at no cost directly from the SAM website at: <https://www.sam.gov>

In instances where a vendor has either an "Inactive" SAM Registration or is not currently registered with the System for Award Management, the Purchasing Department may *initially* accept proof (printout from the SAM website) that the vendor has begun the registration process in order for the IFB/RFQ/RFP submission to be considered as "responsive" to the specifications for the project.

However, the SAM Registration must be completed (showing "active" status, with no exclusions) prior to the award and/or execution of an agreement or contract for the project.

3. FORM 1295 (Texas Ethics Commission)

FORM 1295 SUBMISSION REQUIREMENT/INSTRUCTIONS FOR BIDDERS:

ALL NON-EXEMPT BIDDERS ARE REQUIRED TO SUBMIT A COMPLETED FORM 1295 WITH BID SUBMISSION.

INSTRUCTIONS:

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below.

Vendors must enter the required information on Form 1295, and print a copy of the completed form. The form will include a certification of filing that will contain a unique certification number.

2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Purchasing Department WITH BID SUBMISSION.

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

SAMPLE: A sample of a completed FORM 1295 is included on PAGE 26.

FORM 1295 Implementation Background:

In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County will be required to complete a Certificate of Interested Parties (FORM 1295), **unless contract is considered exempt as described below.**

In 2017, the Texas legislature amended the law to require Form 1295 to include an “unsworn declaration” which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an “unsworn declaration.”

FORM 1295 EXEMPTIONS:

What type of contracts are exempt from the Form 1295 filing requirement under the amended law?

The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement.

A completed Form 1295 is not required for:

- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and o any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

SAMPLE: FORM 1295

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 www.ethics.state.tx.us/File																																											
1 Name of business entity filing form, and the city, state and country of the business entity's place of business. ADD THE ABOVE-REQUESTED INFORMATION HERE																																													
2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed. JEFFERSON COUNTY, TEXAS																																													
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. ADD IFB/RFQ/RFP/AGREEMENT/CONTRACT NUMBER OR DESCRIPTION HERE																																													
4 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 35%;">Name of Interested Party</th> <th rowspan="2" style="width: 25%;">City, State, Country (place of business)</th> <th colspan="2" style="width: 40%;">Nature of Interest (check applicable)</th> </tr> <tr> <th style="width: 15%;">Controlling</th> <th style="width: 25%;">Intermediary</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="padding: 2px;">ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">WORK FOR THE BUSINESS (AS LISTED ON</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">ITEM NO. 1 OF THIS FORM) THAT WILL</td> <td></td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">PROFIT FROM THE BID/CONTRACT/PO.</td> <td></td> <td></td> </tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> <tr><td colspan="2" style="height: 20px;"></td><td></td><td></td></tr> </tbody> </table>		Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)		Controlling	Intermediary	ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT				WORK FOR THE BUSINESS (AS LISTED ON				ITEM NO. 1 OF THIS FORM) THAT WILL				PROFIT FROM THE BID/CONTRACT/PO.																									
Name of Interested Party	City, State, Country (place of business)			Nature of Interest (check applicable)																																									
		Controlling	Intermediary																																										
ADD NAME OF BUSINESS OWNER(S) HERE. MUST LIST ANY PERSON THAT DOES NOT																																													
WORK FOR THE BUSINESS (AS LISTED ON																																													
ITEM NO. 1 OF THIS FORM) THAT WILL																																													
PROFIT FROM THE BID/CONTRACT/PO.																																													
5 Check only if there is NO Interested Party. ☐		☐ ONLY CHECK IF NO CONTROLLING OR INTERMEDIARY PARTY																																											
6 UNSWORN DECLARATION MUST COMPLETE THIS SECTION IN ITS ENTIRETY. My name is _____, and my date of birth is _____. My address _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country). I declare under penalty of perjury that the foregoing is true and correct. Executed in _____ County, State of _____, on the _____ day of _____, 20____. _____ Signature of authorized agent of contracting business entity (Declarant)																																													
ADD ADDITIONAL PAGES AS NECESSARY																																													

BIDDER: INSERT COMPLETED FORM 1295 BEHIND THIS PAGE.

4. **Multiple Vendor Award**

Jefferson County reserves the right to award this contract to more than one vendor at the County's discretion.

5. **Delivery**

If delivery is required, all items must be packaged so as to be protected from damage during shipping and handling. Any item(s) damaged in shipping must be replaced in kind, or repaired, by the contractor, at the discretion of, and at no additional charge to, Jefferson County.

6. **Payment**

Jefferson County will pay original invoices that clearly itemize the goods and/or services provided as to quantity, part number, description, price, applicable discount (if any), labor charges showing time differential, if applicable and if previously agreed to, and delivery, installation, and set-up costs, if applicable and if previously agreed to. Only charges as stated on the Bid Form(s) submitted as a part of the bid will be considered.

Invoices must indicate Jefferson County as applicable, the address to which the product(s) and/or service(s) were delivered, and the applicable purchase order number. Invoices will be matched to delivery tickets prior to payment; therefore, all delivery tickets should have an accurate description of the product(s) and/or service(s).

Invoices shall be submitted to:

Jefferson County Auditing Department
Attention: Accounts Payable
1149 Pearl Street, 7th floor
Beaumont, TX 77701.

7. **Usage Reports**

Jefferson County reserves the right to request, and receive at no additional cost, up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this IFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Jefferson County department, description of each item purchased, including manufacturer, quantity of each item purchased, per unit and extended price of each item purchased, and total amount and price of all items purchased.

8. **Insurance**

The contractor (including any and all subcontractors as defined in Section 9.1.3 below) shall, at all times during the term of this contract, maintain insurance coverages with not less than the type and requirements shown below. Such insurance is to be provided at the sole cost of the contractor. These requirements do not establish limits of the contractor's liability.

All policies of insurance shall waive all rights of subrogation against the County, its officers, employees and agents; a copy of the policy wording or endorsement is required.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County as additional insured and will provide the actual policy wording or endorsement showing as such.

All insurance must be written by an insurer licensed to conduct business in the State of Texas.

Minimum Insurance Requirements:

Public Liability, including Products & Completed Operations	\$1,000,000
Excess Liability	\$1,000,000

Property Insurance (policy below that is applicable to this project):

Improvements & Betterments Policy: Improvements/Remodeling (for Lease Tenants)

Builder's Risk Policy: Structural Coverage for Construction Projects

Installation Floater Policy: Improvements/Alterations to Existing Structure

Workers' Compensation**Statutory Coverage (See Section 9 Below)****9. Workers' Compensation Insurance****9.1 Definitions:**

- 9.1.1 **Certificate of coverage ("Certificate")** – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement, DWC-81, DWC-82, DWC-83, or DWC-84 showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
- 9.1.2 **Duration of the project** – Includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
- 9.1.3 **Persons providing services on the project ("subcontractor") in article 406.096** – Includes all persons or entities performing all or part of the services under the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractor, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" includes, without limitation, providing, hauling or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
- 9.2 The Contractor shall provide coverage, based on proper reporting of classification code and payroll amounts and filing any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.
- 9.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – refer to Section 8 above.
- 9.4 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- 9.5 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
 - 9.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
 - 9.5.2 No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate ends during the duration of the project.
- 9.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.
- 9.7 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- 9.8 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- 9.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:
 - 9.9.1 Provide coverage, based on reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all its employees providing services on the project, for the duration of the project.

- 9.9.2 Provide to the Contractor, prior to that person beginning work on the project a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.
- 9.9.3 Provide the Contractor, prior to the end of coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- 9.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:
 - 9.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and
 - 9.9.4.2 the coverage period, if the coverage period shown on the current certificate of a new certificate of coverage showing extension of coverage, prior to the end of coverage ends during the duration of the project.
- 9.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.
- 9.9.6 Notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
- 9.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs 9.1. – 9.7., with the certificates of coverage to be provided to the person for whom they are providing services.
- 9.10 By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the contractor who will provide services of the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- 9.11 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

BIDDER: INSERT COPY OF CERTIFICATE OF INSURANCE (COI) BEHIND THIS PAGE.

Note: For bid purposes, a general COI will suffice. However, a COI that includes the notation that "Jefferson County as an additional insured" will be required from Awarded Bidder(s) prior to the issuance of a Purchase Order.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____
_____ as PRINCIPAL, and _____, as SURETY are
held and firmly bound unto (County) hereinafter called the "Local Public Agency", in the penal sum of
_____ Dollars, (\$_____), lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the
Accompanying Bid, dated _____, for _____

NOW, THEREFORE, the Principal shall not withdraw said Bid within the period specified therein after
the opening of the same, or, if no period be specified, within **one-hundred and twenty (120)** days after
the said opening, and shall within the period specified therefor, or if no period be specified, within ten
(10) days after the prescribed forms are presented to him for signature, enter into a written contract with
the Local Public Agency in accordance with the Bid as accepted, and give bond with good and sufficient
surety or sureties, as may be required, for the faithful performance and proper fulfillment of such
contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter
into such Contract and give such bond within the time specified, if the Principal shall pay the Local
Public Agency the difference between the amount specified in said Bid and the amount for which the
local Public Agency may procure the required work or supplies or both, if the latter be in excess of the
former, then the above obligation shall be void and of no effect, otherwise to remain in full force and
virtue.

IN WITNESS THEREOF, the above parties have executed this instrument this _____ day _____ of
_____, the name and corporate seal of each corporate party being hereto affixed
and these present signed by its undersigned representative, pursuant to authority of its governing body.

(SEAL)

(SEAL)

Attest:

By: _____

Affix
Corporate
Seal

Attest:

By: _____

Affix
Corporate

Seal

Attest:

By: _____

Countersigned

By _____

* Attorney-in-Fact, State of Texas

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the bid bond; that _____, who signed the said bond on behalf of the Principal was then _____ of said corporation; that I know his/her signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed, and attested to, on behalf of said corporation by authority of its governing body.

Corporate
Seal

Title: _____

* Power-of-attorney for person signing for Surety Company must be attached to bond.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that:

(Name of Contractor or Company)

(Address)

a _____, hereinafter called Principal,
(Corporation / Partnership)

and _____
(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Recipient)

(Recipient's Address)

hereinafter called OWNER, in the penal sum of \$ _____

Dollars, \$ _____ in lawful money of the United States, for this payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONFIDENTIALITY OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ____ day of _____, a copy of which is hereto attached and made a part hereof for the construction of:

(Project Name)

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUB-CONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUB-CONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counter-parts, each on of
(Number)
which shall be deemed an original, this the _____ day of _____.

ATTEST:

(Principal)

(Principal Secretary) By _____ (s)

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

(Witness as to Surety) By _____
(Attorney in Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that:

(Name of Contractor or Company)

(Address)

a _____ hereinafter called Principal, and

(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Grant Recipient)

(Grant Recipient's Address)

hereinafter called OWNER, in the penal sum of \$ _____

Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, successors, and assigns, jointly and severally, firmly in these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER dated the ____ day of _____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties in all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does

hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____

counterparts, each one of which shall be deemed an original, this the _____ day of

_____.

ATTEST:

(Principal)

By _____(s)

(Principal Secretary)

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

By _____

(Witness as to Surety)

(Attorney in Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If PRINCIPAL/CONTRACTOR is Partnership, all partners should execute BOND.

ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, _____, the duly authorized and acting legal representative of the _____, do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and am of the opinion that each of the agreements may be duly executed by the proper parties, acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties; and that the agreements shall constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Attorney's signature: _____ Date: _____

Print Attorney's Name: _____

Texas State Bar Number: _____

SUPPLEMENTARY CONDITIONS

1. PROJECT SITE

The Project Area consists of the area within the property limits shown within the construction plans.

2. TIME FOR COMPLETION

The work which the Contractor is required to perform under this Contract shall be commenced at the time stipulated by the Owner in the Notice to Proceed, to be discussed at the pre-construction meeting.

3. LIQUIDATED DAMAGES

As actual damages for any delay in completion of the work which the Contractor is required to perform under this contract are impossible of determination, the Contractor and his Sureties shall be liable for and shall pay to the Owner the sum of Five Hundred Dollars (\$ 500) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated for completion until such work is satisfactorily completed and accepted.

4. RESPONSIBILITIES OF CONTRACTOR

Except as otherwise specifically stated in the Contract Documents and Technical Specifications, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, heat, power, transportation, superintendence, temporary construction of every nature, charges, levies, fees or other expenses and all other services and facilities of every nature whatsoever necessary for the performance of the Contract and to deliver all Improvements embraced in this Contract and to deliver all Improvements embraced in this Contract complete in every respect within the specified time.

5. COMMUNICATIONS

- A. All notices, demands, requests, instructions, approval, proposals and claims must be in writing.
- B. Any notice to or demand upon the Contractor shall be sufficiently stated on the signature page of the Agreement (or at such other office as the Contractor may from time to time designate in writing to the Owner), or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.
- C. All paper required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to Jefferson County, Texas, and any notice to or demand upon the Owner shall be sufficiently given if so delivered, or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Owner at such address, or to such other representatives of

the Owner or to such other address as the Owner may subsequently specify in writing to the Contractor for such purpose.

- D. Any such notice shall be deemed to have been given as of the time of actual delivery or (in the case of mailing) when the same should have been received in due course of post, or (in the case of telegrams) at the time of actual receipt, as the case may be.

6. CONTRACT TIME

A. Working Day

A Working Day is defined as any day, in which weather or other conditions, not under the control of the CONTRACTOR, will permit construction of the principal units of the work for a period of not less than seven (7) hours between 7:00 a.m. and 6:00 p.m. Saturdays, Sundays and legal holidays will not be counted as a working day if not worked. If the Contractor works on any of these days, he will be charged a working day. Work will not be permitted on Sundays or within 30 minutes of sunset on any working day except with the approval of the Engineer and/or Owner.

If the Contractor intends to claim a day as a "rainout" day, one in which weather or site conditions will not permit the construction of the principal items of the project, as defined herein, he must do so before 9 a.m. of each day by notifying the Engineer. This does not pertain to weather conditions that develop after 9 a.m. and stop the progress of the work for the rest of the day. Site conditions that prevent work must be determined before 9 a.m. of each day. Requests for additional time will be reviewed on a case by case basis but only for the proceeding 30 day period. Requests for additional time should be made each month. No request for additional time will be considered for delays from previous months.

A. Calendar Day

A calendar day is everyday of the week including Saturday, Sunday and legal holidays. Additional time is not normally granted for CALENDAR day contracts for weather related delays. Requests for additional time for other delays will be reviewed on a case by case basis but only for the proceeding 30 day period. Requests for additional time should be made each month. No request for additional time will be considered for delays from previous months.

7. INDEMNIFICATION

- A. The Contractor shall indemnify, defend and hold harmless the OWNER and ENGINEER, their agents, officers, and employees from and against all claims and liabilities arising under or by reason of the contract or any performance of the work. This indemnity expressly extends to claims alleging negligence by the OWNER its agents, officers or employees arising from actions taken or occurrences under this contract. Such indemnification by the Contractor shall include but not be limited to the following:

1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the Contractor, its employees, or its agents in the performance

of the work, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor or its agents;

2. Liability or claims arising directly or indirectly from or based on the violation of any law, ordinance, regulation, order, or decree, whether by the Contractor or its agents;
3. Liability or claims arising directly or indirectly from the use or manufacture by the Contractor, its agents, or the OWNER or ENGINEER in the performance of this contract of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specifically stipulated in this contract;
4. Liability or claims resulting directly or indirectly from the breach of any warranties, whether expressed or implied, made to the OWNER or any other parties by the Contractor or its agents;
5. Liabilities or claims arising directly or indirectly from the willful misconduct of the Contractor, its employees, or its agents; and,
6. Liabilities or claims arising directly or indirectly from any breach of the obligations assumed herein by the Contractor.
7. Liabilities or claims of whatever kind or character, arising out of or in connection with the performance by the Contractor of those services contemplated by this Agreement, based upon allegations of negligent acts of Contractor, its officers, agents, employees, and expressly including allegations of negligence, acts or omissions of the OWNER, the ENGINEER, their consultants, agents, officers or employees, when such allegations of negligence to the OWNER or ENGINEER arise from the actions and work undertaken by Contractor hereunder.

B. The Contractor shall reimburse the OWNER, and the ENGINEER for all costs and expenses, (including but not limited to fees and charges of architects, engineers, attorneys, and other professionals and court costs) incurred by said OWNER, and the ENGINEER in enforcing the provisions of this Article.

C. The indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any such subcontractor or other person or organization under the Workers' Compensation Act, Disability Benefit Acts, or other employee benefit acts.

8. PRE-CONSTRUCTION CONFERENCE

A pre-construction conference will be held between the Engineer, Owner, and the Contractor prior to construction. The dates, time, and place will be announced after the project has been bid.

9. WARRANTY

Neither the final Certificate of Completion nor any provision in the contract nor partial or entire use of the improvements included in this contract shall constitute an acceptance of work not done in accordance with this contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there from which shall appear within a period of 12 months from the date of final acceptance of the work.

10. SUBMITTALS AND AS-BUILTS

Details and manufacturer's information on all materials in the project shall be submitted to the Engineer in three (3) copies for approval within 14 days after the execution of the contract 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.

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.

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.

The Contractor shall provide to the Engineer, prior to and as a condition of release of retainage, a clean set of "As Built" plans. Such drawings shall include any changes made to the facilities from what was shown in the plans. This shall include, but is not limited to, horizontal alignment of water and sewer lines, line depths at one hundred (100) feet stations, stations of all structures, actual lengths, dimensional changes, details not on original drawings, and changes made by change order.

11. CONDITIONS OF THE CONTRACT

In the event that any portions of the conditions in this Contract conflict with each other, the more strict requirements shall be followed.

12. PAYMENT FOR MATERIALS ON HAND

The Contractor will not be required to maintain a field office. In order to be paid for materials on hand, however, all materials that could, in the opinion of the Engineer, easily be removed from the site, must be stored in a materials storage yard.

The materials storage area shall be of adequate size to safely store all of the materials expected to be on hand but not installed. The area shall be fenced with a minimum six (6) foot hurricane fence and shall have a lockable gate. The fencing shall be such that it will prevent unauthorized access to stored materials. This area shall be kept locked when unattended.

13. NOTIFICATION

The Contractor shall be responsible for notifying the Owner at least 48 hours prior to disruption of water or sewer service or the blocking or closing of any roads. The contact person and phone number will be given to the Contractor at the pre-construction conference. All interference with City services or utilities shall be done so in accordance with the plans and specifications.

14. PERMITS

The Contractor shall be responsible for acquiring all necessary permits associated with the construction of this project.

15. PUBLIC SAFETY AND CONVENIENCE

The safety of the public and the convenience of traffic shall be regarded as of prime importance. Unless otherwise shown on the plans or except as herein provided, all portions of the street shall be kept open to traffic. It shall be the entire responsibility of the CONTRACTOR to provide for traffic along and across the street as well as for ingress and egress to private property all as specified herein, as shown on the plans, or as directed by the ENGINEER.

The CONTRACTOR shall plan and execute his operations in a manner that will cause the minimum interference with traffic. The CONTRACTOR shall secure the ENGINEER's approval of his proposed plan of operation, sequence of work and methods of providing for safe passage of traffic before it is placed into operation.

If at any time during construction, the approved plan does not accomplish the intended purpose, due to weather or other conditions affecting the safe handling of traffic, the CONTRACTOR shall immediately make necessary changes therein to correct the unsatisfactory conditions.

Where the specifications require, or the ENGINEER directs that traffic be carried over or along the proposed work, construction operations shall be so prosecuted and new material kept as placed and spread as to allow the passage of traffic in comfort and safety. At night or otherwise, all equipment shall be stored in such manner and at such locations as not to interfere with the safe passage of traffic. The CONTRACTOR shall provide and maintain flag men at such points and for such periods of time as may be required to provide for the safety and convenience of public travel and CONTRACTOR's personnel, and as directed by the ENGINEER or OWNER.

16. SUPERINTENDENT

The Contractor shall appoint a superintendent. The sole activity and responsibility of the Contractor's supervisor or superintendent shall be the full-time superintendence of the work and the fulfillment of the Contractor's responsibilities.

BIDDER INFORMATION FORM

Instructions: Complete the form below. Please provide legible, accurate, and complete contact information.
PLEASE PRINT.

Bid Number & Name: Invitation for Bid (IFB 22-014/JW) Drainage Improvements: Drainage Ditch No. 110-B
CDBG-DR (Community Development Block Grant – Disaster Recovery) Program Project for Jefferson County

Bidder's Company/Business Name: _____

Bidder's TAX ID Number: _____

If Applicable: HUB Vendor No. _____ DBE Vendor No. _____

Contact Person: _____ **Title:** _____

Phone Number (with area code): _____

Alternate Phone Number if available (with area code): _____

Fax Number (with area code): _____

Email Address: _____

Mailing Address (Please provide a physical address for bid bond return, if applicable):

Address

City, State, Zip Code

REQUIRED FORM <u>Bidder:</u> Please complete this form and include with bid submission.

**OFFER AND ACCEPTANCE FORM
OFFER TO CONTRACT**

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer.

We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): _____, _____, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

Company Name Address City State Zip Signature of Person Authorized to Sign Printed Name Title	For clarification of this offer, contact: Name & Title Phone Fax E-mail

REQUIRED FORM
**Bidder: Please complete this form
and include with bid submission.**

ACCEPTANCE OF OFFER

The Offer is hereby accepted for the following items: **Drainage Improvements for Drainage Ditch No. 110-B CDBG-DR (Community Development Block Grant) Program Project for Jefferson County.**

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor’s Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as **Contract No. 22-014/JW, Drainage Improvements for Drainage Ditch No. 110-B (CDBG-DR) Program Project for Jefferson County.** The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

COUNTERSIGNED:

Jeff R. Branick
Jefferson County Judge

Date

ATTEST:

Laurie Leister
Interim Jefferson County Clerk

REQUIRED FORM
Bidder: Please complete this form
and include with bid submission.

BID FORM

**BIDDER ACKNOWLEDGEMENT
OF BID ADDENDA (IF APPLICABLE):**

Addendum 1 _____	Date Received _____
Addendum 2 _____	Date Received _____
Addendum 3 _____	Date Received _____

SCOPE OF WORK

The project scope for the Base bid includes but is not limited to:

- Traffic control as required, including all barricades, signs and traffic handling
- Furnish and install erosion control protection
- Preparing Right of Way and easement
- Removal of existing concrete liner and concrete riprap
- Excavation and shaping to the lines and grades shown in the plan as preparation for box culverts
- Placement of box culvert to the lines and grades shown in the plans
- Backfill box culverts as shown in the plans
- Placement of articulated mats to the line and grades shown in the plans
- Construct concrete riprap as shown in the plans
- Seed all disturbed area upon completion
- Final site clean up

BASE BID

ITEM NO.	ESTIMATED QUANTITIES	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT BID
1	1 L.S.	MOBILIZATION costs including transportation, moving on site, payment bond, performance bond, insurance, submittals, project signage, NOT TO EXCEED 3% of project total bid for, _____ _____ _____ dollars and _____ cents per LUMP SUM.		

ITEM NO.	ESTIMATED QUANTITIES	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT BID
2	411 L.F.	RIGHT OF WAY PREPARATION (Clear and Grub) – Furnish all labor, equipment, and material necessary to remove and dispose of debris material (organic and non-organic) and removal of trees/brush from the right of way/easement, in accordance with the plans and specifications, for _____ dollars and _____ cents per LINEAR FOOT.		
3	858 C.Y.	EXCAVATION (Channel) – Furnish all labor, equipment, and materials to remove and dispose required material in strict accordance with the plans and specifications, for _____ dollars and _____ cents per CUBIC YARD.		
4	686 C.Y.	EMBANKMENT (Channel) – Furnish all labor, equipment, and materials to install required material in strict accordance with the plans and specifications, for _____ dollars and _____ cents per CUBIC YARD.		
5	5 S.Y.	REMOVAL OF CONCRETE RIPRAP – Furnish all labor, equipment, and materials to remove and dispose required material in strict accordance with the plans and specifications, for _____ dollars and _____ cents per SQUARE YARD.		

ITEM NO.	ESTIMATED QUANTITIES	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT BID
6	411 L.F.	REMOVAL OF CONCRETE LINER – Furnish all labor, equipment, and materials to remove and dispose required material in strict accordance with the plans and specifications, for _____ _____ dollars and _____ cents per LINEAR FOOT.		
7	400 L.F.	CONCRETE BOX CULVERT (4'X6') – Furnish all labor, equipment, and materials to install box culvert including but not limited to excavation, embankment, grading, shaping, backfill, placement, embedment and matting complete in place and in accordance with the plans and specifications, for _____ _____ dollars and _____ cents per LINEAR FOOT.		
8	1 L.S.	TIE IN EXISTING 18" CPP STORM SEWER - Furnish all labor, equipment, and materials to tie in existing CPP including but not limited to additional storm sewer pipe, manufacture recommended connection, excavation, embankment, grading, shaping, backfill, placement, embedment and grouting complete in place and in accordance with the plans and specifications, for _____ _____ dollars and _____ cents per LUMP SUM.		

ITEM NO.	ESTIMATED QUANTITIES	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT BID
9	3,269 S.F.	CLOSED CELL BLOCK (ARMORTEC ARMORFLEX 45S) - Furnish all labor, equipment, and materials to install closed cell block including but not limited to excavation, embankment, grading, shaping, backfill, and placement complete in place and in accordance with the plans and specifications, for _____ _____ _____ dollars and _____ cents per SQUARE FEET.		
10	356 L.F.	REMOVE AND REPLACE 6' WOOD FENCE – Furnish all labor, equipment, and materials to remove and replace existing wood fence including but not limited to lumber, fasteners and concrete complete in place and in accordance with the plans and specifications, for _____ _____ _____ dollars and _____ cents per LINEAR FOOT.		
11	1 L.S.	TRENCH SAFETY PLAN – Provide trench safety plan, sealed by a professional engineer licensed in Texas, complete in place, all in strict accordance with the plans and specifications, for _____ _____ _____ dollars and _____ cents per LUMP SUM.		

ITEM NO.	ESTIMATED QUANTITIES	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT BID
12	410 L.F.	TRENCH SAFETY SYSTEM – Provide trench safety system in accordance with Specification Item No. 9500 for all excavations in excess of 5 feet deep, complete in place, including design, supervision, maintenances, all in strict accordance with the plans and specifications, for _____ dollars and _____ cents per LINEAR FEET.		
13	410 L.F.	SPECIAL SHORING – Provide special shoring in accordance with Specification Item No. 9500, complete in place, including design, supervision, maintenances, all in strict accordance with the plans and specifications, for _____ dollars and _____ cents per LINEAR FEET.		
14	1 L.S.	STORM WATER POLLUTION PREVENTION PLAN – including administration, permits, construction entrance, preparation, implementation, maintenance, sediment control devices, furnished and installed, complete in place, in accordance with specification item 506 and the plans and specifications, for _____ dollars and _____ cents per LUMP SUM.		

TOTAL BASE BID:

_____ dollars
and _____ cents (\$_____)

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Amounts are to be shown in both words and figures. Discrepancies in the multiplication of units of work and unit prices shall be resolved in favor of the correct total. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

Bidder understands that the Owner reserves the rights to reject any and all bids and to waive any informalities in the bidding. Bidder acknowledges that quantities are not guaranteed, and final payment will be based on actual quantities determined as provided in the Contract Documents and Specifications, if applicable.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

If the contract is to be awarded, it will be awarded to the Best Bid, the Lowest Bidder or the Bidder whose evaluation by the OWNER or whose Bid indicates to the OWNER that the award will be in the best interest of the Project.

TIME OF COMPLETION

Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with the General Conditions on or before the dates or within the number of working days indicated in the Agreement.

Base Bid - _____ **Working Days**

Bidder accepts the provisions of the Agreement as to liquidated damages.

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

VENDOR REFERENCES FORM

Bidder: Please list at least three (3) companies or governmental agencies (preferably a municipality) where the same or similar products and/or services as contained in this specification package were recently provided.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

REFERENCE ONE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE TWO

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE THREE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

SIGNATURE PAGE

As permitted under Article 4413 (32c) V.A.C.S., other governmental entities may wish to participate under the same terms and conditions contained in this contract (i.e., piggyback). In the event any other entity participates, all purchase orders will be issued directly from and shipped directly to the entity requiring supplies/services. Jefferson County shall not be held responsible for any orders placed, deliveries made or payment for supplies/services ordered by another entity. Each entity reserves the right to determine their participation in this contract.

Would Bidder be willing to allow other governmental entities to piggyback off this contract, if awarded, under the same terms and conditions? Yes ☐ No ☐

This bid shall remain in effect for ninety (90) days from bid opening and shall be exclusive of federal excise and state and local sales tax (exempt).

The undersigned agrees, if this bid is accepted, to furnish any and all items upon which prices are offered, at the price and upon the terms and conditions contained in the Invitation for Bid, Conditions of Bidding, Terms of Contract, and Specifications and all other items made a part of the accepted contract.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other Bidder or to any other person(s) engaged in this type of business prior to the official opening of this bid. And further, that neither the Bidder nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to bid or not to bid thereon.

Bidder (Entity Name)	Signature
Street & Mailing Address	Print Name
City, State & Zip	Date Signed
Telephone Number	Fax Number
E-mail Address	

REQUIRED FORM
**Bidder: Please complete this form
and include with bid submission.**

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of 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 undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned 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.

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official *(Please Print)*

Date

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub-awardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity 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 a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the sub-awardee, e.g., the first sub-awardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Sub-awardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503

Approved by OMB
0348-0046

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure)

Type of Federal Action: _____ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	Status of Federal Action: _____ a. bid/offer/application b. initial award c. post-award	Report Type: _____ a. initial filing b. material change
Name and Address of Reporting Entity: _____ Prime _____ Sub-awardee Tier _____, if Known: Congressional District, if known:		If Reporting Entity in No. 4 is Sub-awardee, Enter Name and Address of Prime: Congressional District, if known:
Federal Department/Agency:		7. Federal Program Name/Description: CFDA Number, if applicable: _____
Federal Action Number, if known:		9. Award Amount, if known: \$
10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i>		b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____
Federal Use Only		Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity		FORM CIQ
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor 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 vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.	OFFICE USE ONLY	
1 Name of vendor who has a business relationship with local governmental entity.	Date Received	
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 on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)		
3 Name of local government officer about whom the information is being disclosed. _____ Name of Officer		
4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary. A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor? ☐ Yes ☐ No B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity? ☐ Yes ☐ No		
5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.		
6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).		
7 _____ Signature of vendor doing business with the governmental entity _____ Date		

Form provided by Texas Ethics Commission

www.ethics.state.tx.us

Revised 11/30/2015

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

**LOCAL GOVERNMENT OFFICER
CONFLICTS DISCLOSURE STATEMENT – OFFICE USE ONLY**

LOCAL GOVERNMENT OFFICER CONFLICTS DISCLOSURE STATEMENT		FORM CIS
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This is the notice to the appropriate local governmental entity that the following local government officer has become aware of facts that require the officer to file this statement in accordance with Chapter 176, Local Government Code.		OFFICE USE ONLY Date Received _____
1	Name of Local Government Officer _____	
2	Office Held _____	
3	Name of vendor described by Sections 176.001(7) and 176.003(a), Local Government Code _____	
4	Description of the nature and extent of employment or other business relationship with vendor named in item 3 _____	
5	List gifts accepted by the local government officer and any family member, if aggregate value of the gifts accepted from vendor named in item 3 exceeds \$100 during the 12-month period described by Section 176.003(a)(2)(B). Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ (attach additional forms as necessary)	
6	AFFIDAVIT I swear under penalty of perjury that the above statement is true and correct. I acknowledge that the disclosure applies to each family member (as defined by Section 176.001(2), Local Government Code) of this local government officer. I also acknowledge that this statement covers the 12-month period described by Section 176.003(a)(2)(B), Local Government Code. _____ Signature of Local Government Officer AFFIX NOTARY STAMP / SEAL ABOVE Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20_____, to certify which, witness my hand and seal of office. _____ Signature of officer administering oath _____ Printed name of officer administering oath _____ Title of officer administering oath	

Adopted 8/7/2015

**THIS FORM IS FOR
OFFICE USE ONLY**

§ 135.38 Section 3 clause.

All Section 3 contracts shall include the following clause (referred to as the Section 3 clause):

A. The work 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 of 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 persons(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 subcontracts 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 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 24CFR 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 35.

F. Noncompliance with HUD's regulation 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 (1) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).

Equal Opportunity Guidelines for Construction Contractors

1. What are the responsibilities of the offeror or bidder to ensure equal employment opportunity?

For contracts over \$ 10,000, the offeror or bidder must comply with the "Equal Opportunity Clause" and the "Standard Federal Equal Opportunity Construction Contract Specifications."

2. Are construction contractors required to ensure a legal working environment for all employees?

Yes, it is the construction contractor's responsibility to provide an environment free of harassment, intimidation, and coercion to all employees and to notify all foremen and supervisors to carry out this obligation, with specific attention to minority or female individuals.

3. To alleviate developing separate facilities for men and women on all sites, can a construction contractor place all women employees on one site?

No, two or more women should be assigned to each site when possible.

4. Are construction contractors required to make special outreach efforts to Section 3 or minority and female recruitment sources?

Yes, construction contractors must establish a current list of Section 3, minority and female recruitment sources. Notification of employment opportunities, including the availability of on-the-job training and apprenticeship programs, should be given to these sources. The efforts of the construction contractors should be kept in file.

5. Should records be maintained on the number of Section 3 residents, minority and females applying for positions with construction contractors?

Yes, records must be maintained to include a current list of names, addresses and telephone numbers of all Section 3, minority and female applicants. The documentation should also include the results of the applications submitted.

6. What happens if a woman or minority is sent to the union by the Contractor and is not referred back to the Contractor for employment?

If the unions impede the construction contractor's responsibility to provide equal employment opportunity, a written notice should be submitted to TDA.

7. What efforts are made by construction contractors to create entry-level positions for Section 3 residents, women and minorities?

Construction contractors are required to develop on-the-job training programs, or participate in training programs, especially those funded by the Department of Labor, to create positions for Section 3 residents, women and minorities and to meet employment needs.

8. Are any efforts made by the Contractor to publicize their Equal Employment Opportunity (EEO) policy?

Yes, the construction contractor is responsible for notifying unions and sources of training programs of their equal employment opportunity policy. Unions should be requested to cooperate in the effort of equal opportunity. The policy should be included in any appropriate manuals, or collective bargaining agreements. The construction contractor is encouraged to publicize the equal employment opportunity policy in the company newspaper and annual report. The Contractor is also responsible to include the EEO policy in all media advertisement.

**GLO COMPLIANCE PACKAGE
GLO CONTRACTOR PROPOSAL CERTIFICATION**



GLO Contractor Proposal Certification	
Subrecipient: Jefferson County	Contract Number:
Contractor Name:	
Contractor Address:	Phone:

1. I understand that I am responding to a contract opportunity which is funded with federal dollars and administered by the Texas General Land Office. I understand that debarment by either the State of Texas or the federal government will make me ineligible.
2. I understand that all work must be completed in accordance with federal construction requirements, CDBG and CDBG-DR Program requirements, and state and local requirements, including but not limited to the following, as applicable:
 - International Residential Code (IRC) – new construction and reconstruction;
 - Housing Quality Standards (HQS) – for rehabilitated properties;
 - All local building codes, standards, and specifications; and
 - All standards and requirements defined by the Texas General Land Office (GLO), Jefferson County, the Jefferson County Engineering Department, and the Jefferson County Community Services Department (CSD).
3. I hereby certify that all work performed will meet or exceed applicable codes, standards, and specifications as they apply to the work for which I am submitting a response. I also understand that compliance with applicable minimum codes, standards, and specifications will be considered part of my contract in the event that my offer is accepted by the above-referenced Subrecipient. I understand that all provisions also apply to my subcontractors and their officers, agents and employees, and I shall be liable for acts of non-compliance of subcontractors. I understand that failure to meet or exceed applicable codes, standards, and specifications may result in debarment from future federally funded contracts.
4. I understand that I must provide a 1-2-10 warranty on all work performed, specifically:
 - 1 year warranty on the entire home;
 - 2 year warranty on mechanical, electrical and plumbing components; and
 - 10 year warranty on structural components.

Failure to complete warranty work in a timely manner may result in debarment from future federally funded construction contracts.
5. I understand that up to twenty percent (20%) of project construction funds may be retained for thirty (30) days pending completion of the Final Inspection and Verification. Failure to complete punch list items or warranty work during this time will result in forfeiture of the 20% retainage.

Signature of Contractor

Date

**GLO COMPLIANCE PACKAGE
GLO CERTIFICATION OF OFFEROR
REGARDING CIVIL RIGHTS LAWS AND REGULATIONS**

U.S. Department of Housing and Urban Development	
INSTRUCTIONS	
CERTIFICATION OF OFFEROR REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.	
NAME AND ADDRESS OF OFFEROR (include ZIP Code)	
CERTIFICATION BY OFFEROR	
Offeror has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations. ☐ Yes ☐ No	
The undersigned hereby certifies that: ☐ The <u>Section 3 Clause</u> is included in the Solicitation. A written Section 3 plan was prepared and submitted as part of the RFP proceedings (if contract equals or exceeds \$100,000). ☐ The <u>Non-Segregated Facilities</u> clause is included in the Solicitation. No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964. ☐ The <u>Equal Employment Opportunity</u> clause is included in the Solicitation (if contract equals or exceeds \$10,000). ☐ The <u>Equal Employment Opportunity for Workers With Disabilities</u> clause is included in the Solicitation.	
Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended? ☐ Yes ☐ No	
NAME AND TITLE OF SIGNER (Please type)	
SIGNATURE	DATE



THE OFFEROR REPRESENTS AND CERTIFIES AS PART OF ITS BID/OFFER THAT IT:

- ☐ Is a Section 3 Business Concern. A Section 3 Business Concern means a business concern:
1. That is 51% or more owned by Section 3 Resident(s); or
 2. Whose permanent, full-time employees include persons, at least 30% of whom are currently Section 3 Residents, or
 3. That provides evidence of a commitment to subcontract in excess of 25% of the dollar value of all subcontracts to be awarded to Section 3 Business Concerns, that meet the qualifications set forth in paragraphs 1 or 2 herein.
- ☐ Is **NOT** a Section 3 Business Concern, but who has and will continue to seek compliance with Section 3 by certifying the following efforts to be undertaken.

EFFORTS TO AWARD SUBCONTRACTOR TO SECTION 3 CONCERNS (Check ALL that apply)

- ☐ By contacting business assistance agencies, minority Contractors' associations and community organizations to inform them of the contracting opportunities and requesting their assistance in identifying Section 3 businesses which may solicit bids for a portion of the work. Contractors and Subcontractors must post all new hire opportunities with the local Workforce Solutions Center and WorkinTexas.com.
- ☐ By advertising contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information, in the common areas of the applicable development(s) owned and managed by a Housing Authority.
- ☐ By providing written notice to all known Section 3 Business Concerns of contracting opportunities. This notice should be in sufficient time to allow the Section 3 Business Concerns to respond to bid invitations
- ☐ By following up with Section 3 Business Concerns that have expressed interest in the contracting opportunities.
- ☐ By coordinating meetings at which Section 3 Business Concerns could be informed of specific elements of the work for which subcontract bids are being sought.
- ☐ By conducting workshops on contracting procedures and specific contracting opportunities in a timely manner so that Section 3 Business Concerns can take advantage of contracting opportunities.
- ☐ By advising Section 3 Business Concerns as to where to seek assistance to overcome barriers such as inability to obtain bonding, lines of credit, financing, or insurance and aiding Section 3 Business in qualifying for such bonding, financing, insurance, etc.
- ☐ Where appropriate, breaking out contract work into economically feasible units to facilitate participation by Section 3 businesses.
- ☐ By developing and using a list of eligible Section 3 Business Concerns.
- ☐ By actively supporting and undertaking joint ventures with Section 3 Businesses.

EFFORTS TO PROVIDE TRAINING AND EMPLOYMENT TO SECTION 3 RESIDENTS

- ☐ By entering into a "first source" hiring agreements with organizations representing Section 3 Residents.
- ☐ By establishing training programs, which are consistent with the requirements of the Department of Labor, specifically for Section 3 Residents in the building trades.
- ☐ By advertising employment and training positions to dwelling units occupied by Category 1 and 2 residents.
- ☐ By contacting resident councils and other resident organizations in the affected housing development request assistance in notifying residents of the training and employment positions to be filled.
- ☐ By arraigining interviews and conducting interviews on the job site.
- ☐ By undertaking such continued job-training efforts as may be necessary to ensure the continued employment of Section 3 Residents previously hired for employment opportunities.
- ☐ By posting job vacancies in Work-In-Texas or with my local Workforce Solutions Center.

Contractor Name/Business Name: _____ **Date:** _____

Authorized Representative Name: _____ **Signature:** _____

Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 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.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(III) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(I) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(II) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, 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 the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 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 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, 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 subparagraph (1) of this paragraph, 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 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) **Withholding for unpaid wages and liquidated damages.** HUD or its designee 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 contract, 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 subparagraph (2) of this paragraph.

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

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

TITLE 29--Labor

Subtitle A--OFFICE OF THE SECRETARY OF LABOR

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

SEC.

- 3.1 Purpose and Scope
- 3.2 Definitions
- 3.3 Weekly Statement with respect to payment of wages
- 3.4 Submission of weekly statement and the preservation and inspection of weekly payroll records
- 3.5 Payroll deductions permissible without application to or approval of the Secretary of Labor.
- 3.6 Payroll deductions permissible with the approval of the Secretary of Labor.
- 3.7 Applications for the approval of the Secretary of Labor
- 3.8 Action by the Secretary of Labor upon applications.
- 3.9 Prohibited payroll deductions
- 3.10 Method of payment of wages
- 3.11 Regulations part of contract

AUTHORITY: The provisions of this Part 3 issued under R.S. 161, sec.2, 48 STAT. §48; Reorg. Plan No. 14 of 1950, 64 Stat. 1267, 5 U.S.C. Appendix; 5 U.S.C. 301; 40 U.S.C. 276c.

SOURCE: The provisions of this Part 3 appear at 29 F.R. 97, Jan.4, 1964, unless otherwise noted.

§ 3.1 Purpose and scope.

This part prescribes "anti-kickback" regulations under section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c), popularly known as the Copeland Act. This part applies to any contract which is subject to Federal wage standards and which is for the construction, prosecution, completion, or repair of public buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States. The part is intended to aid in the enforcement of the minimum wage provisions of the

Davis-Bacon Act and the various statutes dealing with federally assisted construction that contain similar minimum wage provisions, including those provisions which are not subject to Reorganization Plan No. 14 (e.g., the College Housing Act of 1950, the Federal Water Pollution Control Act, and the Housing Act of 1959), and in the enforcement of the overtime provisions of the Contract Work Hours Standards Act whenever they are applicable to construction work. The part details the obligation of contractors and subcontractors relative to the weekly submission of statements regarding the wages paid on work covered thereby; sets forth the circumstances and procedures governing the making of payroll deductions from the wages of those employed on such work; and delineates the methods of payment permissible on such work.

§ 3.2 Definitions.

As used in the regulations in this part:

(a) The terms *building* or *work* generally include construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work. The terms include, without limitation, buildings, structures, and improvements of all types, such as bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, powerlines, pumping stations, railways, airports, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, and canals; dredging, shoring, scaffolding, drilling, blasting, excavating, clearing, and landscaping. Unless conducted in connection with and at the site of such a building or work as is described in the foregoing sentence, the manufacture or furnishing of materials, articles, supplies, or equipment (whether or not a Federal or State agency acquires title to such materials, articles, supplies, or equipment during the course of the manufacture or furnishing, or owns the materials from which they are manufactured or furnished) is not a *building* or *work* within the meaning of the regulations in this part.

(b) The terms *construction*, *prosecution*, *completion*, or *repair* mean all types of work done on a particular building or work at the site thereof, including, without limitation, altering, remodeling, painting and decorating, the transporting of materials and supplies to or from the building or work by the employees of the construction contractor or construction subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work, by persons employed at the site by the contractor or subcontractor.

(c) The terms *public building* or *public work* include building or work for whose construction, prosecution, completion, or repair, as defined above, a Federal

agency is a contracting party, regardless of whether title thereof is in a Federal agency.

(d) The term *building or work financed in whole or in part by loans or grants from the United States* includes building or work for whose construction, prosecution, completion, or repair, as defined above, payment or part payment is made directly or indirectly from funds provided by loans or grants by a Federal agency. The term includes building or work for which the Federal assistance granted is in the form of loan guarantees or insurance.

(e) Every person paid by a contractor or subcontractor in any manner for his labor in the construction, prosecution, completion, or repair of a public building or public work or building or work financed in whole or in part by loans or grants from the United States is *employed* and receiving wages, regardless of any contractual relationship alleged to exist between him and the real employer.

(f) The term *any affiliated person* includes a spouse, child, parent, or other close relative of the contractor or subcontractor; a partner or officer of the contractor or subcontractor; a corporation closely connected with the contractor or subcontractor as parent, subsidiary, or otherwise, and an officer or agent of such corporation.

(g) The term *Federal agency* means the United States, the District of Columbia, and all executive departments, independent establishments, administrative agencies, and instrumentalities of the United States and of the District of Columbia, including corporations, all or substantially all of the stock of which is beneficially owned by the United States, by the District of Columbia, or any of the foregoing departments, establishments, agencies, and instrumentalities.

[29 FR 97, Jan. 4, 1964, as amended at 38 FR 32575, Nov. 27, 1973]

§ 3.3 Weekly statement with respect to payment of wages.

(a) As used in this section, the term *employee* shall not apply to persons in classifications higher than that of laborer or mechanic and those who are the immediate supervisors of such employees.

(b) Each contractor or subcontractor engaged in the construction, prosecution, completion, or repair of any public building or public work, or building or work financed in whole or in part by loans or grants from the United States, shall furnish each week a statement with respect to the wages paid each of its employees engaged on work covered by this part 3

and part 5 of this title during the preceding weekly payroll period. This statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and shall be on the back of Form WH 347, "Payroll (For Contractors Optional Use)" or on any form with identical wording. Copies of Form WH 347 may be obtained from the Government contracting or sponsoring agency or from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site.

(c) The requirements of this section shall not apply to any contract of \$2,000 or less.

(d) Upon a written finding by the head of a Federal agency, the Secretary of Labor may provide reasonable limitations, variations, tolerances, and exemptions from the requirements of this section subject to such conditions as the Secretary of Labor may specify.

[29 FR 97, Jan. 4, 1964, as amended at 33 FR 10186, July 17, 1968; 47 FR 23679, May 28, 1982; 73 FR 77511, Dec. 19, 2008] **§ 3.4 Submission of weekly statements and the preservation and inspection of weekly payroll records.**

(a) Each weekly statement required under § 3.3 shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to a representative of a Federal or State agency in charge at the site of the building or work, or, if there is no representative of a Federal or State agency at the site of the building or work, the statement shall be mailed by the contractor or subcontractor, within such time, to a Federal or State agency contracting for or financing the building or work. After such examination and check as may be made, such statement, or a copy thereof, shall be kept available, or shall be transmitted together with a report of any violation, in accordance with applicable procedures prescribed by the United States Department of Labor.

(b) Each contractor or subcontractor shall preserve his weekly payroll records for a period of three years from date of completion of the contract. The payroll records shall set out accurately and completely the name and address of each laborer and mechanic, his correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Such payroll records shall be made available at all times for inspection by the contracting officer or his authorized representative, and by authorized representatives of the Department of Labor.

(Reporting and recordkeeping requirements in paragraph (b) have been approved by the Office of Management and Budget under control number 1215-0017)

[29 FR 97, Jan. 4, 1964, as amended at 47 FR 145, Jan. 5, 1982]

§ 3.5 Payroll deductions permissible without application to or approval of the Secretary of Labor.

Deductions made under the circumstances or in the situations described in the paragraphs of this section may be made without application to and approval of the Secretary of Labor:

(a) Any deduction made in compliance with the requirements of Federal, State, or local law, such as Federal or State withholding income taxes and Federal social security taxes.

(b) Any deduction of sums previously paid to the employee as a bona fide prepayment of wages when such prepayment is made without discount or interest. *A bona fide prepayment of wages* is considered to have been made only when cash or its equivalent has been advanced to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.

(c) Any deduction of amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor, or any affiliated person, or when collusion or collaboration exists.

(d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representatives of employees, or both, for the purpose of providing either from principal or income, or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the foregoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents: *Provided, however, That the following standards are met:*

(1) The deduction is not otherwise prohibited by law,

(2) It is either:

(i) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for

the obtaining of or for the continuation of employment, or

(ii) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees;

(3) No profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and

(4) The deductions shall serve the convenience and interest of the employee.

(e) Any deduction contributing toward the purchase of United States Defense Stamps and Bonds when voluntarily authorized by the employee.

(f) Any deduction requested by the employee to enable him to repay loans to or to purchase shares in credit unions organized and operated in accordance with Federal and State credit union statutes.

(g) Any deduction voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.

(h) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.

(i) Any deductions to pay regular union initiation fees and membership dues, not including fines or special assessments: *Provided, however, That a collective bargaining agreement between the contractor or subcontractor and representatives of its employees provides for such deductions and the deductions are not otherwise prohibited by law.*

(j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3(m) of the Fair Labor Standards Act of 1938, as amended, and part 531 of this title. When such a deduction is made the additional records required under §516.25(a) of this title shall be kept.

(k) Any deduction for the cost of safety equipment of nominal value purchased by the employee as his own property for his personal protection in his work, such as safety shoes, safety glasses, safety gloves, and hard hats, if such equipment is not required by law to be furnished by the employer, if such deduction is not violative of the Fair Labor Standards Act or prohibited by other law, if the cost on which the deduction is based does not exceed the actual cost to the

employer where the equipment is purchased from him and does not include any direct or indirect monetary return to the employer where the equipment is purchased from a third person, and if the deduction is either

(1) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance; or

(2) Provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees.

[29 FR 97, Jan. 4, 1964, as amended at 36 FR 9770, May 28, 1971]

§ 3.6 Payroll deductions permissible with the approval of the Secretary of Labor.

Any contractor or subcontractor may apply to the Secretary of Labor for permission to make any deduction not permitted under §3.5. The Secretary may grant permission whenever he finds that:

(a) The contractor, subcontractor, or any affiliated person does not make a profit or benefit directly or indirectly from the deduction either in the form of a commission, dividend, or otherwise;

(b) The deduction is not otherwise prohibited by law;

(c) The deduction is either (1) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance, or (2) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; and

(d) The deduction serves the convenience and interest of the employee.

§ 3.7 Applications for the approval of the Secretary of Labor.

Any application for the making of payroll deductions under §3.6 shall comply with the requirements prescribed in the following paragraphs of this section:

(a) The application shall be in writing and shall be addressed to the Secretary of Labor.

(b) The application need not identify the contract or contracts under which the work in question is to be performed. Permission will be given for deductions on all current and future contracts of the applicant for a period of 1 year. A renewal of permission to make such payroll deduction will be granted upon the submission of an application which makes reference to the original application, recites the date of the Secretary of Labor's approval of such deductions, states affirmatively that there is continued compliance with the standards set forth in the provisions of §3.6, and specifies any conditions which have changed in regard to the payroll deductions.

(c) The application shall state affirmatively that there is compliance with the standards set forth in the provisions of §3.6. The affirmation shall be accompanied by a full statement of the facts indicating such compliance.

(d) The application shall include a description of the proposed deduction, the purpose to be served thereby, and the classes of laborers or mechanics from whose wages the proposed deduction would be made.

(e) The application shall state the name and business of any third person to whom any funds obtained from the proposed deductions are to be transmitted and the affiliation of such person, if any, with the applicant.

[29 FR 97, Jan. 4, 1964, as amended at 36 FR 9771, May 28, 1971]

§ 3.8 Action by the Secretary of Labor upon applications.

The Secretary of Labor shall decide whether or not the requested deduction is permissible under provisions of §3.6; and shall notify the applicant in writing of his decision.

§ 3.9 Prohibited payroll deductions.

Deductions not elsewhere provided for by this part and which are not found to be permissible under §3.6 are prohibited.

§ 3.10 Methods of payment of wages.

The payment of wages shall be by cash, negotiable instruments payable on demand, or the additional forms of compensation for which deductions are permissible under this part. No other methods of payment shall be recognized on work subject to the Copeland Act.

§ 3.11 Regulations part of contract.

All contracts made with respect to the construction, prosecution, completion, or repair of any public building or public work or building or work financed in whole or in part by loans or grants from the United States covered by the regulations in this part shall expressly bind the contractor or subcontractor to comply with such of the regulations in this part as may be applicable. In this regard, see §5.5(a) of this subtitle.

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive.

This statement must be notarized.

If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

Date: _____

Bidder (Legal Name of Firm): _____

Date Organized: _____

Address: _____

Date Incorporated _____ Number of Years of Experience: _____ Providing Similar Services: _____

Federal ID Number: _____

Number of Years in contracting business under present name: _____

List all other names under which your business has operated in the last 10 years: _____

Work Presently Under Contract:

Contract	Amount \$	Completion Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Type of work performed by your company: _____

Total Staff employed by Firm (Break down by Managers and Trades on separate sheet):

Have you ever failed to complete any work awarded to you? ☐ Yes ☐ No

(If yes, please attach summary of details on a separate sheet. Include brief explanation of cause and resolution)

Have you ever defaulted on a contract? ☐ Yes ☐ No

(If yes, please attach summary of details on a separate sheet.)

Has your organization had any disbarments or suspensions that have been imposed in the past five years or that was still in effect during the five-year period or is still in effect? ☐ Yes ☐ No

(If yes, list and explain; such list must include disbarments and suspensions of officers, principals, partners, members, and employees of your organization.)

List the projects most recently completed by your firm (include project of similar importance):

Project	Amount \$	Mo/Yr. Completed

Major equipment available for this contract: _____

Are you in compliance with all applicable EEO requirements? ☐ Yes ☐ No
 (If no, please attach summary of details on a separate sheet.)

Bank References

Address: _____ Contact Name: _____

City & State: _____ Zip: _____ Phone Number: _____

Credit available: \$ _____

Has the firm or predecessor firm been involved in a bankruptcy or reorganization? ☐ Yes ☐ No
 (If yes, please attach summary of details on a separate sheet.)

List on a sheet attached hereto all judgements, claims, arbitration proceedings, or suits pending or outstanding against bidder over the last five (5) years with amount of claim and brief description.

List on a sheet attached hereto all lawsuits or requested arbitration with regard to construction contracts which bidder has initiated within the last five (5) years and brief explanation of claim and outcome.

Attach resume(s) for the principal member(s) of your organization, including the officers as well as the proposed superintendent for the project.

Signed this _____ day of _____, 20____.

 Signature

 Printed Name and Title

 Company Name

NOTARY STATEMENT:

_____, being duly sworn, says that he/she is the _____ (Position/Title) of _____ (Firm Name), and hereby swears that the answers to the foregoing questions and all statements therein contained are true and correct. He/she hereby authorizes and requests any person, firm, or corporation to furnish any information requested County of _____ in verification of the recitals comprising this Statement of Bidder's Qualifications.

Subscribed and sworn before me this _____ day of _____, 20____.

Notary Public

Signature

Printed Name

My Commission Expires: _____,

The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

CONTRACTOR CERTIFICATIONS

U.S. Department of Housing and Urban Development	
CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS	
INSTRUCTIONS	
CERTIFICATION OF BIDDER REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.	
NAME AND ADDRESS OF BIDDER (include ZIP Code)	
CERTIFICATION BY BIDDER	
Bidder has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations. ☐ Yes ☐ No	
The undersigned hereby certifies that: ☐ The <u>Provision of Local Training, Employment, and Business Opportunities</u> clause (Section 3 provision) is included in the Contract. A written Section 3 plan (Local Opportunity Plan) was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$100,000). ☐ The <u>Equal Opportunity</u> clause is included in the Contract (if bid equals or exceeds \$10,000).	
Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended? ☐ Yes ☐ No	
NAME AND TITLE OF SIGNER (Please type)	
SIGNATURE	DATE

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
CONTRACTOR'S CERTIFICATION

CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

TO (appropriate recipient)	DATE
C/O	PROJECT NUMBER (if any)
	PROJECT NAME

1. The undersigned, having executed a contract with _____
_____ for the construction of the above-identified project, acknowledges that:

- (a) The Labor Standards provisions are included in the aforesaid contract,
- (b) Correction of any infractions of the aforesaid conditions, including infractions by any subcontractors and any lower tier subcontractors, is Contractor's responsibility.

2. Certifies that:

- (a) Neither Contractor nor any firm, partnership or association in which it has substantial interest is designated as an ineligible Contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act, as amended.
- (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. Contractor agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. Certifies that:

- (a) The legal name and the business address of the undersigned are:

(b) The undersigned is (choose one):

(1) A SINGLE PROPRIETORSHIP

(3) A CORPORATION ORGANIZED IN THE STATE OF

(2) A PARTNERSHIP

(4) OTHER ORGANIZATION (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS

(d) The names and addresses of all other persons having a substantial interest in the undersigned, and the nature of the interest are:

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction Contractors in which the undersigned has a substantial interest are:

NAME	ADDRESS	TRADE CLASSIFICATION

Date _____

(Contractor) _____

By _____

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

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

Locality/Grantee: _____ Contract #: _____
Project Name: _____

Firm _____ Date: _____

I do hereby certify that I am a contractor on the above-mentioned project and that I have appointed _____ whose signature appears below, to supervise the payment of my employees. I further certify that he/she is in the position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland "Anti-Kickback" Act which he/she is to execute with my full authority and approval until such time as I submit to the grantee/locality a new certificate appointing some other person for the purposes herein above stated.

Name: _____ Insert name, address, phone
number & email address of person
appointed as payroll officer
Address: _____
City: _____ State: _____ Zip Code: _____
Telephone No: _____ Email Address: _____

Identifying Signature of Appointee

Signature of Appointing Officer: _____ Title: _____

Complaint Register

Under Section 3 of the Housing
And Urban Development Act of 1968

U.S. Department of Housing and Urban Development

Office of Fair Housing
and Equal Opportunity

OMB Approval No. 2529-0043 (revised)

(Expires 11/30/2018)

453

Instructions: This form is to be used to report allegations of noncompliance with Section 3 of the Housing and Urban Development Act of 1968, as amended and implementing regulations at 24 CFR Part 135.

1. Complainant Information:	
Name of Complainant (Person or organization)	Home Phone
Street Address	Work Phone
City, State, Zip code	
Email Address:	
2. You are: (check all that apply)	
☐ Low/Very Low Income Person	☐ Section 3 Business
☐ Public Housing Resident	☐ A Representative of a Section 3 Business
☐ HUD Youthbuild Participant	☐ Other: _____
☐ A Representative of any of the above listed Individuals (Such as: a Low-Income Person or Public Housing Resident)	
3. Basis for alleged noncompliance with Section 3:	
☐ Denied Training ☐ Denied Employment ☐ Denied Contracting ☐ Other (see below in item 6)	
4. Complaint is against: (check one or more boxes)	
☐ Recipient of HUD Funds (Such: as a PHA, city/county agency, etc.) ☐ Contractor ☐ Subcontractor ☐ Other (please specify): _____	
5. Who is this complaint being filed against?	
Name of agency, organization, or company:	Business Phone
Street Address	
City, State, Zip code	
Name and identify others (if any) who allegedly violated Section 3 in this case:	

6. How did the HUD recipient, contractor, or subcontractor violate the requirements of Section 3? (Check all that apply – provide documentation, if available)	
HUD Recipient	Contractor and/or Subcontractor
☐ Failed to notify Section 3 businesses about contracting opportunities	☐ Failed to certify that all employment vacancies filled prior to contract execution were not filled to circumvent Section 3
☐ Failed to incorporate the Section 3 Clause into covered Section 3 bid solicitations or contracts	☐ Failed to notify potential subcontractors about Section 3 requirements
☐ Failed to provide priority consideration to Section 3 businesses for covered contracting opportunities	☐ Failed to post notices at the work site regarding Section 3 requirements in accordance with the Section 3 Clause
☐ Failed to select Section 3 businesses in accordance with the order of priority consideration as set forth in 24 CFR 135.36	☐ Failed to send to each labor organization or representative of workers a notice of Section 3 obligations in accordance with the Section 3 Clause
☐ Failed to award contracts to Section 3 businesses	☐ Failed to ensure that its subcontractors complied with Section 3
☐ Failed to ensure that its contractors/ subcontractors complied with Section 3 requirements	☐ Failed to train and/or hire Section 3 residents for new employment opportunities
☐ Knowingly entered into contracts with contractors/ subcontractors that failed to comply with Section 3 requirements	☐ Failed to provide priority consideration to Section 3 residents for employment or training opportunities in accordance with 24 CFR Part 135.34
☐ Failed to notify Section 3 residents about training and/or employment opportunities	☐ Failed to ensure that contracts awarded to subcontractors included the Section 3 Clause
☐ Failed to provide priority consideration to Section 3 residents for employment or training opportunities	☐ Failed to award subcontracts to Section 3 businesses
☐ Failed to select Section 3 residents for training or employment opportunities in accordance with the order of priority consideration set forth in 24 CFR 135.34	☐ Failed to award subcontracts to Section 3 businesses in accordance with the order of priority consideration set forth in 24 CFR 135.34
☐ Failed to hire Section 3 residents for new employment opportunities	☐ Retaliated against the complainant because complainant sought to enforce Section 3 requirements or participated in an investigation or proceeding regarding Section 3
☐ Retaliated against the complainant because complainant sought to enforce Section 3 requirements or participated in an investigation or proceeding regarding Section 3	☐ Other
☐ Other 	

7. **When did the act(s) checked above occur?** (Include the most recent date if several dates are involved):

____/____/____
Month Day Year

* The date of the last alleged violation or occurrence must be less than 180 days from the date of submission to HUD.

8. **Project name or location where alleged violation occurred?** (If applicable):

Project Name (if applicable): _____ Project Number: _____

Project Location: _____

Local Contracting Agency (LCA): _____

9. **Identify the type of HUD funding used by the HUD funding recipient, organization, or contractor that this complaint is filed against:** (Check all that apply)

☐ PIH Operating Subsidy	☐ Other PIH Assistance	☐ Neighborhood Stabilization Program (NSP) Assistance	☐ Section 811 Supportive Housing for the Disabled
☐ PIH Capital Fund Subsidy	☐ Community Development Block Grants (CDBG)	☐ Other Community Development Assistance	☐ Project Based Housing Vouchers
☐ Choice Neighborhood Initiative Grant	☐ HOME Investment Partnership Funding	☐ Lead-Based Paint	☐ Other HUD Housing Assistance
☐ HOPE VI Grant	☐ McKinney Homeless Assistance	☐ Section 202 Supportive Housing for the Elderly	☐ Other Covered HUD Funding

10. Description of act(s) or incident(s) involving alleged violation of Section 3: Summarize what happened? Attach additional information if necessary	
11. Declaration Statement	
I declare under penalty of perjury that I have read this complaint (including any attachments) and that all information is accurate and correct.	
Signature	Date

Section 3 of the Housing and Urban Development Act of 1968

Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB number.

The information is given voluntarily and provides the basis for HUD's investigation of the complaint to determine if the allegations of noncompliance are valid. The Department will use the information provided as the basis for its determination of jurisdiction over a complainant's allegations. All information collected complies with the Privacy Act of 1974 and OMB Circular A-108. The information is unique to the processing of complaints alleging noncompliance with the Section 3 statute or implementing regulations. The information collected on this form will only be used by HUD during the investigation and resolution of complaints and will not be shared with persons or parties that are not directly involved with the complaint.

What is Section 3 of the Housing and Urban Development Act of 1968?

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that helps foster local economic development, neighborhood economic improvement, and individual self-sufficiency. The Section 3 requirements ensure that **when** new jobs or contracts are created during the usage of certain HUD funds, priority consideration is given to low- and very low-income persons residing in the community in which the funds are spent (regardless of race or gender), and to the businesses that substantially employ these persons.

Who are Section 3 residents and businesses?

Section 3 residents are:

- Public housing residents; or
- Persons who live in the area where a HUD-assisted project is located and who have a household income that falls below HUD's income limits for low- and very low-income.

Please visit: <http://www.huduser.org/portal/datasets/il.html> to determine the income limits for residents of your community.

A Section 3 business is one that meets one of the following criteria:

- Is 51 percent or more owned by Section 3 residents;
- Employs Section 3 residents for at least 30 percent of its full-time, permanent staff; or
- Provides evidence of a commitment to subcontract to Section 3 business concerns, 25 percent or more of the dollar amount of the awarded contract.

What HUD funding does Section 3 cover?

Section 3 applies to any of the following:

- A. Public and Indian Housing programs that receive: (1) Annual contributions for low income housing projects provided pursuant to section 5 of the U.S. Housing Act of 1937, as amended by the Quality Housing and Work Responsibility Act of 1998 (QHWRA); (2) Capital Fund Project assistance provided pursuant to Section 9 of QHWRA; (3) Operating Subsidy assistance provided pursuant to Section 9 of QHWRA.
- B. Housing and community development assistance extended for: (1) housing rehabilitation (including reduction and abatement of lead based paint hazards), (2) housing construction or (3) other public construction projects; and for which the contract and subcontract exceeds \$100,000; and
- C. Certain competitive HUD grant funding, such as: HOPE VI, Choice Neighborhoods, etc.).

What can you do about violations of the Law?

Remember, Section 3 applies to the awarding of jobs, training programs, and contracts, generated from projects receiving HUD financial assistance. If you believe that, as a low-income person or a Section 3 business concern, the responsibilities to provide economic opportunities under Section 3 have been violated, you have a right to file a complaint within **180 days** of the last alleged occurrences of noncompliance.

Complaints alleging violations of the Section 3 regulatory requirements must be submitted to the appropriate HUD Regional Office of Fair Housing and Equal Opportunity listed below. Please be certain to sign and date this form, where indicated, to ensure prompt complaint processing.

HUD will send the complaint to the appropriate HUD recipient for resolution. If resolution by the recipient fails, HUD will investigate. If HUD finds that the complaint has merit, it will try to end the violation by informal resolution. If conciliation fails, HUD may initiate other steps to enforce the law, including but not limited to suspension and debarment of the recipient or contractors as applicable.

You can obtain assistance in learning about more Section 3 by visiting www.hud.gov/section3 or by contacting one of the HUD's Regional Offices of Fair Housing and Equal Opportunity.

Authority: Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1968, as amended by the Housing and Community Development Act of 1992, U.S.C. 1701u and implementing regulations at 24 CFR Part 135.

Purpose: The information requested on this form is to be used to investigate and process Section 3 complaints.

Use: The information requested will be used to process a complaint filed under Part 135. HUD may disclose certain information for Federal, State, and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as required and permitted by law.

Penalty: Failure to provide some or all of the requested information will result in delayed processing or rejection of this complaint for investigation.

Privacy Act of 1974 (P.L.93-579)

All information collected is provided voluntarily and complies with the Privacy Act of 1974 and OMB Circular A-108. The information is unique to the processing of complaints alleging noncompliance with the Section 3 statute or implementing regulations. The information collected on this form will only be used by HUD during the investigation and resolution of complaints and will not be shared with persons or parties that are not directly involved with the complaint.

Instructions for completing the Section 3 Complaint Register

- Box 1:** Enter the requested information for the person that is filing the complaint (i.e., the complainant). This person must meet the definition of a Section 3 resident or business.
- Box 2:** Select the appropriate statement that describes your status as a Section 3 resident, businesses, or representative of either.
- Box 3:** Select the appropriate basis for the complaint which you are filing.
- Box 4:** Select the appropriate option that best describes the person or entity that you are filing this complaint against.
- Box 5:** Provide the name, address, and contact information for the person or entity that you are filing this complaint against.
- Box 6:** Select the statement(s) that best describe the alleged actions or omissions undertaken by the person or entity that you are filing this complaint against that are in violation of the requirements of Section 3. If you select "other", please briefly describe the alleged violation on the appropriate line.
- Box 7:** Provide the date that the alleged violation or action occurred. If the alleged act or violation is continuing in nature, please provide the date of the most recent occurrence.
- Box 8:** If this complaint is based upon acts or omissions that occurred at a specific job site, project, or location, please provide information that will allow HUD to identify the specific project that is the subject of the complaint that you are filing.
- Box 9:** Select the appropriate type of covered HUD funding that the recipient, organization, contractor/subcontractor received or administered.
NOTE: In order for the complaint to be jurisdictional, covered HUD funding must be administered by the recipient, organization, contractor/subcontractor.
- Box 10:** Provide a detailed description of the acts or omissions undertaken by the person or entity that you filing this complaint against. Provide enough specific information to enable HUD to clearly understand the alleged violation and whether it demonstrates noncompliance with the requirements of Section 3.
- Box 11:** Please sign the complaint and enter the current date.
NOTE: By signing and dating this complaint you are affirming that your statements and allegations are true and accurate by penalty of perjury. Complaints must be signed and dated prior to acceptance by HUD for investigation.

Where to file your complaint:

Please fax or mail your complaint to the appropriate HUD Regional Office of Fair Housing and Equal Opportunity that has jurisdiction over the state for which you are located or where the alleged violation occurred. Inquiries regarding the status of your complaint should be directed to the appropriate Regional office of FHEO by telephone or email.

BOSTON REGIONAL OFFICE U.S. Department of Housing and Urban Development New England Office 10 Causeway Street, Suite 308 Boston, MA 02222 (617) 994-8300 (800) 827-5005 Fax: (617) 565-7313 Email: complaints_office_01@hud.gov *Covers the following states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont	FORT WORTH REGIONAL OFFICE U.S. Department of Housing and Urban Development Southwest Office 801 Cherry St., Unit 45, Suite 2500 Fort Worth, TX 76102 (817) 978-5900 (888) 560-8913 Fax: (817) 978-5876 Email: complaints_office_06@hud.gov *Covers the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas
NEW YORK REGIONAL OFFICE U.S. Department of Housing and Urban Development New York and New Jersey Office 26 Federal Plaza New York, NY 10278 (212) 264-1290 (800) 496-4294 Fax: (212) 264-9829 Email: complaints_office_02@hud.gov *Covers the following states: New Jersey and New York	KANSAS CITY REGIONAL OFFICE U.S. Department of Housing and Urban Development Great Plains Office 400 State Avenue Kansas City, KS 66101 (913) 551-6958 (800) 743-5323 Fax: (913) 551-6856 Email: complaints_office_07@hud.gov *Covers the following states: Iowa, Kansas, Missouri, and Nebraska
PHILADELPHIA REGIONAL OFFICE U.S. Department of Housing and Urban Development Mid-Atlantic Office 100 Penn Square East, 12th Floor Philadelphia, PA 19107 (215) 861-7646 (888) 799-2085 Fax: (215) 656-3449 Email: complaints_office_03@hud.gov *Covers the following states: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia	DENVER REGIONAL OFFICE U.S. Department of Housing and Urban Development Rocky Mountain Office 1670 Broadway Denver, CO 80202 (303) 672-5437 (800) 877-7353 Fax: (303) 672-5026 Email: complaints_office_08@hud.gov *Covers the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming

ATLANTA REGIONAL OFFICE U.S. Department of Housing and Urban Development Southeast Office 40 Marietta Street Atlanta, GA 30303 (404) 331-5140 (800) 440-8091 Fax: (404) 331-1021 Email: complaints_office_04@hud.gov *Covers the following states: Alabama, Puerto Rico, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and the Virgin Islands	SAN FRANCISCO REGIONAL OFFICE U.S. Department of Housing and Urban Development Pacific/Hawaii Office 600 Harrison Street Third Floor San Francisco, CA 94107 (415) 489-6536 (800) 347-3739 Fax: (415) 489-6560 Email: complaints_office_09@hud.gov *Covers the following states: Arizona, California, Guam, Hawaii, and Nevada
CHICAGO REGIONAL OFFICE U.S. Department of Housing and Urban Development Midwest Office 77 W. Jackson Boulevard, Suite 2101 Chicago, IL 60604 (312) 353-7776 (800) 765-9372 Fax: (312) 886-2837 Email: complaints_office_05@hud.gov *Covers the following states: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin	SEATTLE REGIONAL OFFICE U.S. Department of Housing and Urban Development Northwest/Alaska Office 909 First Avenue Seattle, WA 98104 (206) 220-5170 (800) 877-0246 Fax: (206) 220-5447 Email: complaints_office_10@hud.gov *Covers the following states: Alaska, Idaho, Oregon, and Washington

GOOD FAITH EFFORT (GFE) DETERMINATION CHECKLIST

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded).
☐ Yes ☐ No

Instructions: In order to determine if a “Good Faith Effort” was made in soliciting HUBs for subcontracting opportunities, the following checklist and supporting documentation shall be completed by the Prime Contractor/Consultant, and returned with the Prime Contractor/ Consultant’s bid. This list contains the **minimum** efforts that should be put forth by the Prime Contractor/Consultant when attempting to achieve or exceed the goals of HUB Subcontractor participation. The Prime Contractor/Consultant may extend his/her efforts in soliciting HUB Subcontractor participation beyond what is listed below.

Did the Prime Contractor/Consultant . . .?

☐ Yes	☐ No	1. To the extent practical, and consistent with standard and prudent industry standards, divide the contract work into the smallest feasible portions, to allow for maximum HUB Subcontractor participation?
☐ Yes	☐ No	2. Notify in writing a reasonable number of HUBs, allowing sufficient time for effective participation of the planned work to be subcontracted?
☐ Yes	☐ No	3. Provide HUBs that were genuinely interested in bidding on a subcontractor, adequate information regarding the project (i.e., plans, specifications, scope of work, bonding and insurance requirements, and a point of contact within the Prime Contractor/Consultant’s organization)?
☐ Yes	☐ No	4. Negotiate in good faith with interested HUBs, and not reject bids from HUBs that qualify as lowest and responsive Bidders?
☐ Yes	☐ No	5. Document reasons HUBs were rejected? Was a written rejection notice, including the reason for rejection, provided to the rejected HUBs?
☐ Yes	☐ No	6. If Prime Contractor/Consultant has zero (0) HUB participation, please explain the reasons why.

If “No” was selected, please explain and include any pertinent documentation with your bid.

If necessary, please use a separate sheet to answer the above questions.

 Printed Name of Authorized Representative

 Signature

 Title

 Date

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

NOTICE OF INTENT (NOI) TO SUBCONTRACT WITH HISTORICALLY UNDERUTILIZED BUSINESS (HUB)

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded).

☐ Yes ☐ No

Instructions for Prime Contractor/Consultant: Bidder shall submit this form with the bid; however, the information below may be submitted after contract award, but prior to beginning performance on the contract. Please submit one form for each HUB Subcontractor/Subconsultant with proper signatures, per the terms and conditions of your contract.

Contractor Name: _____ HUB: ☐ Yes ☐ No

Address: _____

Street	City	State	Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____

Prime Contract Amount: \$ _____

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity):

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____

Street	City	State	Zip

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed:

Printed Name of Contractor Representative

Signature of Representative

Date

Printed Name of HUB

Signature of Representative

Date _____

Note: Nothing on this Notice of Intent Form is intended to confer any rights, expressed or implied, to any third parties.

Pre-Approval for Subcontractor Substitutions must be obtained from the Jefferson County Purchasing Agent's Representative. The "HUB Subcontractor/Subconsultant Change Form" must be completed and faxed to 409-835-8456.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB) SUBCONTRACTING PARTICIPATION DECLARATION FORM

PAGE 2 OF 4

HUB Subcontractor Disclosure

PART I: Continuation Sheet

(Duplicate as Needed)

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____

Street	City	State	Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed:

HUB Subcontractor Name:

HUB Status (Gender & Ethnicity):

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed:

All HUB Subcontractor Participation may be verified with the HUB Subcontractor(s) listed on Part I.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

HISTORICALLY UNDERUTILIZED BUSINESS (HUB) SUBCONTRACTING PARTICIPATION DEC

PAGE 4 OF 4

Subcontractor Name: _____

Address: _____

Street	City	State	Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Subcontractor Name: _____

Address: _____

Street	City	State	Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: \$ Percentage of Prime Contract: %

Description of Subcontract Work to be Performed:

I hereby certify that I have read the *HUB Program Instructions and Information*, truthfully completed all applicable parts of this form, and **attached any necessary support documentation as required**. I fully understand that intentionally falsifying information on this document may result in my not receiving a contract award or termination of any resulting contract.

Name (print or type): _____

Title:

Signature: _____

Date: _____

E-mail address:

Contact person that will be in charge of invoicing for this project:

Name (print or type): _____

Title: _____

Date: _____

E-mail address:

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

RESIDENCE CERTIFICATION/TAX FORM

Pursuant to Texas Government Code §2252.001 *et seq.*, as amended, Jefferson County requests Resident Certification. §2252.001 *et seq.* of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

(3) "Non-resident Bidder" refers to a person who is not a resident.

(4) "Resident Bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

☐ I certify that _____ [company name] is a Resident Bidder of Texas as defined in Government Code §2252.001.

☐ I certify that _____ [company name] is a Nonresident Bidder as defined in Government Code §2252.001 and our principal place of business is _____ (city and state).

Taxpayer Identification Number (T.I.N.):	
Company Name submitting bid/proposal:	
Mailing address:	
If you are an individual, list the names and addresses of any partnership of which you are a general partner:	

Property: List all taxable property owned by you or above partnerships in Jefferson County.

Jefferson County Tax Acct. No.*	Property address or location**

* This is the property amount identification number assigned by the Jefferson County Appraisal District.

** For real property, specify the property address or legal description. For business property, specify the address where the property is located. For example, office equipment will normally be at your office, but inventory may be stored as a warehouse or other location.

REQUIRED FORM

Bidder: Please complete this form and include with bid submission.

HOUSE BILL 89 VERIFICATION

I, _____, the undersigned representative of (company or business name) _____ (heretofore referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.002, Texas Government Code:

1. **"Boycott Israel"** means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made ordinary business purposes; and
2. **"Company"** means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or an limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business association that exist to make a profit.

Signature of Company Representative

Date

On this _____ day of _____, 20____, personally appeared

_____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

Notary Seal

Notary Signature

Date

SENATE BILL 252 CERTIFICATION

On this day, I, Deborah L. Clark, Purchasing Agent for Jefferson County, Texas, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, certify that I did review the website of the Comptroller of the State of Texas concerning the listing of companies that is identified under Section 806.051, Section 807.051, or Section 2253.253 and I have ascertained that the below named company is not contained on said listing of companies which do business with Iran, Sudan, or any Foreign Terrorist Organization.

Company Name

IFB/RFP/RFQ number**Certification check performed by:**

Purchasing Representative

Date**REQUIRED FORM**

**Bidder: Please complete this form
and include with bid submission.**

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of Texas)

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He/She is _____ of _____, the Bidder that has submitted the attached Bid;

(2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the _____ (Local Public Agency) or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to me this _____ day of _____.

By: _____
Notary Public

My commission expires _____

REQUIRED CONTRACT PROVISIONS

Italics – Explanatory; not contract language

All Contracts

THRESHOLD	PROVISION	CITATION
None	(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 government-wide Excluded Parties List System 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.	2 CFR 200 APPENDIX II (H)
None	The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, and the Texas Department of Agriculture (TDA), and the County, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the TxCDBG award, in order to make audits, examinations, excerpts, and transcripts and to close-out the County’s TxCDBG contract with TDA.	2 CFR 200.336 (former 24 CFR 85.36(i)(10))
None	Grantees or subgrantees must retain all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.	2 CFR 200.333 (former 24 CFR (85.36(i)(11))
	Sec. 176.003. CONFLICTS DISCLOSURE STATEMENT REQUIRED.	
	(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:	
	(1) the vendor enters into a contract with the local governmental entity or the local governmental entity is considering entering into a contract with the vendor; and	
	(2) the vendor:	
None	(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that:	<u>Chapter 176</u> of the Local Government Code
	(i) a contract between the local governmental entity and vendor has been executed; or	
	(ii) the local governmental entity is considering entering into a contract with the vendor;	
	(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:	

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor; or has a family relationship with the local government officer.

(a-1) A local government officer is not required to file a conflicts disclosure statement in relation to a gift accepted by the officer or a family member of the officer if the gift is:

(1) a political contribution as defined by Title 15, Election Code; or

(2) food accepted as a guest.

(a-2) A local government officer is not required to file a conflicts disclosure statement under Subsection (a) if the local governmental entity or vendor described by that subsection is an administrative agency created under Section 791.013, Government Code.

(b) A local government officer shall file the conflicts disclosure statement with the records administrator of the local governmental entity not later than 5 p.m. on the seventh business day after the date on which the officer becomes aware of the facts that require the filing of the statement under Subsection (a).

(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 effected and the basis for settlement.

Use the following language for contracts > \$ 10,000:

Termination for Cause

If the Contractor fails to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor violates any of the covenants, conditions, agreements, or stipulations of this Agreement, the County shall have the right to terminate this Agreement by giving written notice to the Contractor of such termination and specifying the effective date thereof, which shall be at least five days before the effective date of such termination. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Contractor pursuant to this Agreement shall, at the option of the County, be turned over to the County and become the property of the County. In the event of termination for cause, the Contractor shall be entitled to receive reasonable compensation for any necessary services actually and satisfactorily performed prior to the date of termination.

Notwithstanding the above, the Contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of contract by the Contractor, and the County may set-off the damages it incurred as a result of the Contractor's breach of contract from any amounts it might otherwise owe the Contractor.

Termination for Convenience of the County

County may at any time and for any reason terminate Contractor's services and work at County's convenience upon providing written

>\$10,000

2 CFR 200
APPENDIX II(B)

notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

[Parties should include the manner by which such termination will be affected and the basis for settlement or any other terms and conditions concerning payment upon such termination.]

(A) Contracts for more than \$50,000 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.

Use the following language for contracts > \$50,000:

Resolution of Program Non-compliance and Disallowed Costs

In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement, or the breach thereof, including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or TxCDBG program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Agreement and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the costs of such mediation equally. *[This section may also provide for the qualifications of the mediator(s), the locale of meetings, time limits, or any other item of concern to the parties.]* If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.

>\$50,000

2 CFR 200
APPENDIX II (A)

Option Contract
Language for
Procurement
before Grant
Funds Awarded

Payment of the fees [described in ____ section] shall be contingent on CDBG funding. In the event that grant funds are not awarded to the County by TDA through the TxCDBG program, this agreement shall be terminated by the County.

2 CFR 200.319(a)

Additional provisions for administration & engineering contracts associated with construction contracts:

THRESHOLD	PROVISION	CITATION
	<i>(Italics – Explanatory; not contract language)</i>	41 CFR §60-1.4(b)
>\$10,000	<i>2 CFR 200 Appendix II (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</i>	And 2 CFR 200 APPENDIX II (C)

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.”

Therefore, include the following EO clause (not in italics) in construction contracts including construction associated administration and engineering contracts > \$10,000:

§60-1.4(b) Equal opportunity clause.

(b) Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause:

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discourage 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.

(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 (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.

The applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(c) Subcontracts. Each nonexempt prime Contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.

(d) Incorporation by reference. The equal opportunity clause may be incorporated by reference in all Government

contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate.

(e) Incorporation by operation of the order. By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the Contractor is written.

(f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings.

[43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997; 79 FR 72993, Dec. 9, 2014; 80 FR 54934, September 11, 2015]

§135.38 Section 3 clause

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

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.

>\$100,000

24 CFR §135.38

- 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 subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).

Construction Contracts:

THRESHOLD	PROVISION	CITATION
	<i>HUD 4010 Federal labor standards provisions include:</i>	
>\$2,000 for Davis Bacon and Copeland “Anti-Kickback” Act; >\$100,000 for Contract Work Hours and Safety Standards Act	1. <i>Davis Bacon Act (40 U.S.C. 3141 et seq.) as supplemented by DOL regulations (29 CFR part 5);</i> 2. <i>Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3); and</i> 3. <i>Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.)</i>	
	<i>See HUD 4010 contract language in Appendix F. Inclusion of this language into the construction contract satisfies contract requirements of the separate acts noted.</i>	
>\$2,000 (Satisfied with inclusion of HUD 4010)	<i>Compliance with the Davis-Bacon Act (40 U.S.C. 3141 et seq.) 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):</i>	2 CFR 200 APPENDIX II (D)

(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 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.

(Italics – Explanatory; not contract language)

2 CFR 200 Appendix II (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."

41 CFR §60-1.4(b)
And
2 CFR 200
APPENDIX II (C)

>\$10,000

Therefore, include the following EO clause (not in italics) in construction contracts including construction associated administration and engineering contracts > \$10,000:

§60-1.4(b) Equal opportunity clause.

(b) *Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any*

grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause:

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discourage 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.

(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 (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.

The applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(c) Subcontracts. Each nonexempt prime Contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.

(d) Incorporation by reference. The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate.

(e) Incorporation by operation of the order. By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the Contractor is written.

(f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall

be appropriate to identify properly the parties and their undertakings.

[43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997; 79 FR 72993, Dec. 9, 2014; 80 FR 54934, September 11, 2015]

≥\$100,000

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award of \$100,000 or more 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 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.

2 CFR 200
APPENDIX II (I)
and
24 CFR §570.303

>\$100,000

(Satisfied with
inclusion of HUD
4010)

(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.

2 CFR 200
APPENDIX II (E)

§135.38 Section 3 clause

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

>\$100,000

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.

24 CFR §135.38

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 subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).

(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).

>\$150,000

2 CFR 200
APPENDIX II (G)

BID AFFIDAVIT

The undersigned certifies that the bid prices contained in this bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all commodities upon which prices are extended at the price offered, and upon the conditions contained in the specifications and the Notice to Bidders.

STATE OF _____ COUNTY OF _____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____,

on this day personally appeared _____, who
(name)

after being by me duly sworn, did depose and say:

"I, _____ am a duly authorized officer of/agent
(name)

for _____ and have been duly authorized to execute the
(name of firm)

foregoing on behalf of the said _____.
(name of firm)

I hereby certify that the foregoing bid has not been prepared in collusion with any other Bidder or other person or persons engaged in the same line of business prior to the official opening of this bid. Further, I certify that the Bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities bid on, or to influence any person or persons to bid or not to bid thereon."

Name and address of Bidder: _____

Fax: _____ Telephone# _____

by: _____ Title: _____
(print name)

Signature: _____

SUBSCRIBED AND SWORN to before me by the above-named

_____ on

this the _____ day of _____, 20____.

Notary Public in and for
the State of _____

REQUIRED FORM

**Bidder: Please complete this form
and include with bid submission.**

"General Decision Number: TX20220052 02/25/2022

Superseded General Decision Number: TX20210052

State: Texas

Construction Type: Heavy

Counties: Jefferson and Orange Counties in Texas.

FLOOD CONTROL, including: Breakwaters, Channels, Channel Cut-offs, Dikes, Drainage Projects, Flood Control Projects, Irrigation Projects, Jetties, Land Drainage (not incidental to other construction), Land Leveling (not incidental to other construction), Land Reclamation, Levees, Pipelines, Ponds Pumping Stations (prefabricated drop-in not building), Revetments.

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)(2)-(60).

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 \$15.00 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 2022.
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 \$11.25 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 2022.

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 <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number Publication Date

0 01/07/2022

1 02/25/2022

* SUTX1990-035 01/31/1990

Rates Fringes

CARPENTER.....\$ 10.965 ** .90

Heavy Equipment Operator

Heavy duty mechanic, blade grader (self-propelled), bull clam, backfiller, derrick (power operated, all types); dragline, push cat operator; bulldozer & all types of cat tractors; cable-way; backhoe, shovel, crane (power operated, all types), elevating grader (self-propelled), hoist (motor driven 2 drums or more), mix mobile, winch truck, locomotive crane, mixer (14 cubic feet or more), paving mixer (all sizes), scraper (heavy type over 3 CY), trench machine (all sizes), gradeall, high lift, foundation boring machine, gasoline or diesel driven welding machines (7 to 12 machines pumpcrete machines & drill operator, water well, tournapulls, DW-10 euclid, asphalt plants, crushing machines & batchplants,

scoopmobiles, fingerlifts,
open construction.....\$ 7.25 **

LABORER.....\$ 7.25 **

Light Equipment Operator

Air compressor, blade
grader (towed), flexplane,
form grader, mixer (less
than 14 cu. ft.), pumps
pulsometer, truck crane
driver, gasoline or diesel
driven welding machines (3
to 6 machines), hoist
(single drum), scrapers (3
cu. yds. or less).....\$ 7.25 **

Oiler.....\$ 7.25 **

Piledriver.....\$ 7.25 **

PILEDRIVERMAN.....\$ 11.26 ** .85

TRUCK DRIVER.....\$ 7.25 **

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 (\$15.00) or 13658
(\$11.25). Please see the Note at the top of the wage
determination for more information.

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) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

=====

"END OF GENERAL DECISION"

Item 100

Preparing Right of Way



1. DESCRIPTION

Prepare the right of way and designated easements for construction operations by removing and disposing of all obstructions when removal of such obstructions is not specifically shown on the plans to be paid by other Items.

2. CONSTRUCTION

Protect designated features on the right of way and prune trees and shrubs as directed. Do not park equipment, service equipment, store materials, or disturb the root area under the branches of trees designated for preservation. Treat cuts on trees with an approved tree wound dressing within 20 min. of making a pruning cut or otherwise causing damage to the tree when shown on the plans. Follow all local and state regulations when burning. Pile and burn brush at approved locations as directed. Coordinate work with state and federal authorities when working in state or national forests or parks. Test, remove, and dispose of hazardous materials in accordance with Article 6.10., "Hazardous Materials."

Clear areas shown on the plans of all obstructions, except those landscape features that are to be preserved. Such obstructions include remains of houses and other structures, foundations, floor slabs, concrete, brick, lumber, plaster, septic tank drain fields, basements, abandoned utility pipes or conduits, equipment, fences, retaining walls, and other items as specified on the plans. Remove vegetation and other landscape features not designated for preservation, curb and gutter, driveways, paved parking areas, miscellaneous stone, sidewalks, drainage structures, manholes, inlets, abandoned railroad tracks, scrap iron, and debris, whether above or below ground. Removal of live utility facilities is not included in this Item. Remove culverts, storm sewers, manholes, and inlets in proper sequence to maintain traffic and drainage.

Notify the Engineer in writing when items not shown on the plans and not reasonably detectable (buried with no obvious indication of presence) are encountered and required to be removed. These items will be handled in accordance with Article 4.5., "Differing Site Conditions."

Remove obstructions not designated for preservation to 2 ft. below natural ground in areas receiving embankment. Remove obstructions to 2 ft. below the excavation level in areas to be excavated. Remove obstructions to 1 ft. below natural ground in all other areas. Cut trees and stumps off to ground level when allowed by the plans or directed. Plug the remaining ends of abandoned underground structures over 3 in. in diameter with concrete to form a tight closure. Backfill, compact, and restore areas where obstructions have been removed unless otherwise directed. Use approved material for backfilling. Dispose of wells in accordance with Item 103, "Disposal of Wells."

Accept ownership, unless otherwise directed, and dispose of removed materials and debris at locations off the right of way in accordance with local, state, and federal requirements.

3. MEASUREMENT

This Item will be measured by the acre; by the 100-ft. station, regardless of the width of the right of way; or by each tree removed.

4. PAYMENT

For "acre" and "station" measurement, the work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Preparing Right of Way." For "each" measurement, the work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Preparing Right of Way (Tree)" of the diameter specified. This price is full compensation for pruning of designated trees and shrubs; removal and disposal of structures and obstructions; backfilling of holes; furnishing and placing concrete for plugs; and equipment, labor, tools, and incidentals.

Total payment of this Item will not exceed 10% of the original contract amount until final acceptance. The remainder will be paid on the estimate after the final acceptance under Article 5.12., "Final Acceptance."

Item 104

Removing Concrete



1. DESCRIPTION

Break, remove, and salvage or dispose of existing hydraulic cement concrete.

2. CONSTRUCTION

Remove existing hydraulic cement concrete from locations shown on the plans. Avoid damaging concrete that will remain in place. Saw-cut and remove the existing concrete to neat lines. Replace any concrete damaged by the Contractor at no expense to the Department. Accept ownership and properly dispose of broken concrete in accordance with federal, state, and local regulations unless otherwise shown on the plans.

3. MEASUREMENT

Removing concrete pavement, floors, porches, patios, riprap, medians, foundations, sidewalks, driveways, and other appurtenances will be measured by the square yard (regardless of thickness) or by the cubic yard of calculated volume, in its original position.

Removing curb, curb and gutter, and concrete traffic barrier will be measured by the foot in its original position. The removal of monolithic concrete curb or dowelled concrete curb will be included in the concrete pavement measurement.

Removing retaining walls will be measured by the square yard along the front face from the top of the wall to the top of the footing.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

4. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Concrete" of the type specified. This price is full compensation for breaking the concrete; loading, hauling, and salvaging or disposing of the material; and equipment, labor, tools, and incidentals.

Removing retaining wall footings will not be paid for directly but will be considered subsidiary to this item.

Item 110

Excavation



1. DESCRIPTION

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 Department.

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

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 proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

Limits of measurement for excavation in retaining wall areas will be as shown on the plans.

Shrinkage or swelling factors will not be considered in determining the calculated quantities.

4. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Roadway)," "Excavation (Channel),"

"Excavation (Special)," or "Excavation (Roadway and Channel)." 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.

Drying required deeper than 6 in. below subgrade elevation will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method." Excavation and replacement of unsuitable material below subgrade elevations will be performed and paid for in accordance with the applicable bid items. However, if Item 132, "Embankment," is not included in the Contract, payment for replacement of unsuitable material will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

When a slide not due to the Contractor's negligence or operation occurs, payments for removal and disposal of the slide material will be in accordance with Article 9.7., "Payment for Extra Work and Force Account Method." Excavation in backfill areas of retaining walls will not be measured or paid for directly but will be subsidiary to pertinent Items.

Item 132

Embankment



1. DESCRIPTION

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. Provide one or more of the following types as shown on the plans:

- Type A. Granular material that is free from vegetation or other objectionable material and meets the requirements of Table 1.

Table 1
Testing Requirements

Property	Test Method	Specification Limit
Liquid limit	Tex-104-E	≤ 45
Plasticity index (PI)	Tex-106-E	≤ 15
Bar linear shrinkage	Tex-107-E	≥ 2

Perform the Linear Shrinkage test only as indicated in [Tex-104-E](#).

- Type B. Materials such as rock, loam, clay, or other approved materials.
- Type C. Material meeting the specification requirements shown on the plans. Type C may be further designated as Type C1, C2, etc.
- Type D. Material from required excavation areas shown on the plans.

Meet the requirements of the pertinent retaining wall Items for retaining wall backfill material.

3. CONSTRUCTION

Meet the requirements of Item 7, "Legal Relations and Responsibilities," when off right of way sources are used. Notify the Engineer before opening a material source to allow for required testing. Complete preparation of the right of way in accordance with Item 100, "Preparing Right of Way," for areas to receive embankment.

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with Item 204, "Sprinkling," and by rolling using equipment complying with Item 210, "Rolling," when directed.

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 132.3.4., "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 roadway 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.

Treat material in accordance with Item 260, "Lime Treatment (Road-Mixed)" or Item 275, "Cement Treatment (Road-Mixed)" when required. 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 roadbed when the size of approved rock or broken concrete exceeds the layer thickness requirements in Section 132.3.4., "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 mix 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 and mix embankment until a uniform material is attained.

Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction.

Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact the layer to the required density in accordance with Section 132.3.4.2., "Density Control," when density control is specified.

- 3.2. Rock Embankments. Rock embankment is mainly composed of rock. Construct rock embankments in successive layers for the full width of the roadway cross-section with a depth of 18 in. or less. Increase the layer depth for large rock sizes as approved. Do not exceed a depth of 2-1/2 ft. in any case. Fill voids created by the large stone matrix with smaller stones during the placement and filling operations.

Ensure the depth of the embankment layer is greater than the maximum dimension of any rock. Do not place rock greater than 2 ft. in its maximum dimension, unless otherwise approved. Construct the final layer with graded material so that the density and uniformity is in accordance with Section 132.3.4., "Compaction Methods." Break up exposed oversized material as approved.

Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact each layer to the required density in accordance with Section 132.3.4.2., "Density Control," when density control is specified. Proof-roll each rock layer as directed, where density testing is not possible, in accordance with Item 216, "Proof Rolling," to ensure proper compaction.

- 3.3. Embankments Adjacent to Culverts and Bridges. Compact embankments adjacent to culverts and bridges in accordance with Item 400, "Excavation and Backfill for Structures."

- 3.4. Compaction Methods. Begin rolling longitudinally at the sides and 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 super elevated curves. Alternate roller trips to attain slightly different lengths. Compact embankments in accordance with Section 132.4.1., "Ordinary Compaction," or Section 132.3.4.2., "Density Control," as shown on the plans.

- 3.4.1. Ordinary Compaction. Use approved rolling equipment complying with Item 210, "Rolling," to compact each layer. Use specific equipment when required by the plans or the Engineer. Do not allow the loose depth of any layer to exceed 8 in., unless otherwise approved. Bring each layer to the moisture content directed before and during rolling operations. Compact each layer until there is no evidence of further consolidation. Maintain a level layer to ensure uniform compaction. Recompect and refinish the subgrade at no additional expense to the Department if the required stability or finish is lost for any reason.

- 3.4.2. Density Control. Compact each layer to the required density using equipment complying with Item 210, "Rolling." 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 or 12 in. compacted material unless otherwise approved. Maintain a level layer to ensure uniform compaction.

The Engineer will use [Tex-114-E](#) to determine the maximum dry density (D_a) and optimum moisture content (W_{opt}). Meet the requirements for field density and moisture content in Table 2 unless otherwise shown on the plans.

Table 2
Field Density Control Requirements

Description	Density	Moisture Content
	Tex-115-E	
$PI \leq 15$	$\geq 98\% D_a$	
$15 < PI \leq 35$	$\geq 98\% D_a$ and $\leq 102\% D_a$	$\geq W_{opt.}$
$PI > 35$	$\geq 95\% D_a$ and $\leq 100\% D_a$	$\geq W_{opt.}$

Each layer is subject to testing by the Engineer for density and moisture content. During compaction, the moisture content of the soil should not exceed the value shown on the moisture-density curve, above optimum, required to achieve:

- 98% dry density for soils with a PI greater than 15 but less than or equal to 35 or
- 95% dry density for soils with PI greater than 35.

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, "Proof Rolling," when shown on the plans or as directed. Correct soft spots as directed.

- 3.5. Maintenance 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.
- 3.6. Acceptance Criteria.
- 3.6.1. Grade Tolerances.
- 3.6.1.1. Staged Construction. Grade to within 0.1 ft. in the cross-section and 0.1 ft. in 16 ft. measured longitudinally.
- 3.6.1.2. Turnkey Construction. Grade to within 1/2 in. in the cross-section and 1/2 in. in 16 ft. measured longitudinally.
- 3.6.2. Gradation Tolerances. Ensure no more than 1 of the 5 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.
- 3.6.3. Density Tolerances. Ensure no more than 1 of the 5 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.
- 3.6.4. Plasticity Tolerances. Ensure no more than 1 of the 5 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 Article 9.2., "Plans Quantity Measurement." 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.

Measurement of retaining wall backfill in embankment areas is paid for as embankment unless otherwise shown on the plans. Limits of measurement for embankment in retaining wall areas are shown on the plans.

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 Article 9.7., "Payment for Extra Work and Force Account Method."

Item 158

Specialized Excavation Work



1.	DESCRIPTION Excavate, remove, use, or dispose of materials for erosion control or other specialized needs. Construct, shape, and rough in earthwork in conformance with the required lines, grades, and typical sections as shown on the plans, or as directed.
2.	EQUIPMENT Use equipment of the type specified on the plans unless otherwise approved. Use equipment that is able to consistently and efficiently produce the desired results. 2.1. Dragline. Self-propelled dragline with a minimum 1/2-cu. yd. bucket. 2.2. Backhoe. Tractor-mounted backhoe capable of excavating a trench at least 12 in. wide in one pass. 2.3. Hydraulic Excavator. Hydraulic excavator with a retractable, telescoping, rotatable boom attached to an interchangeable excavating or grading bucket at least 36 in. wide. The entire excavating mechanism must be mounted on a platform that rotates on a turntable assembly. 2.4. Front-End Loader. Tractor-mounted front-end loader with a minimum bucket capacity of 1-1/4 cu. yd.
3.	CONSTRUCTION Perform "Specialized Excavation Work" on the areas shown on the plans or as directed. Use suitable excavated materials, including topsoil, for constructing the required roadway sections. Compact material placed in embankment to ordinary compaction in accordance with Article 132.3., "Construction," unless otherwise shown on the plans. Accept ownership of all excavated material unless otherwise shown on the plans. Stockpile materials designated salvageable at designated sites. Properly dispose of excess excavated material in accordance with local, state, and federal requirements at locations outside the right of way.
4.	MEASUREMENT This Item will be measured by the hour of work performed for specified equipment or by the cubic yard. Measurement by the cubic yard will be further defined as follows: 4.1. Original. The cubic yard will be measured in its original position as computed by the method of average end areas. 4.2. Vehicle. The cubic yard will be measured in vehicles at the point of excavation.
5.	PAYMENT The work performed in accordance with this Item and measured by the hour as provided under "Measurement" will be paid for at the unit price bid for "Specialized Excavation Work" of the equipment type specified or; for cubic yard measurement, payment will be made at the unit price bid for "Specialized Excavation Work (Original)," or "Specialized Excavation Work (Vehicle)." This price is full compensation for hauling and disposing or stockpiling of excess materials and for equipment, labor, materials, tools, and incidentals. "Sprinkling" and "Rolling" will not be paid for directly but will be subsidiary to this Item.

Item 400

Excavation and Backfill for Structures



1. DESCRIPTION

Excavate for placement and construction of structures and backfill structures. Cut and restore pavement.

2. MATERIALS

Use materials that meet the requirements of the following Items.

- Item 401, "Flowable Backfill,"
- Item 421, "Hydraulic Cement Concrete," and
- [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, 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."

- 3.1.1.1. 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.

- 3.1.1.2. 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.

- 3.1.1.3. Utilities. Comply with the requirements of Article 7.15., "Responsibility for Damage Claims." 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.

- 3.1.1.4. 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 Department reserves the right to reject designs. Design structural systems to comply with the *AASHTO Standard Specifications for Highway Bridges* or *AASHTO LRFD Bridge Design Specifications*. 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.

- 3.1.4.1. 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.

- 3.1.4.2. 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. 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 shown in Figure 1 for pipe installations. 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.

B_c - Outside diameter or horizontal dimension
 D - Inside diameter of pipe
 d - Min. bedding material below pipe

D	d
$\leq 27"$	3"
30" to 60"	4"
$\geq 66"$	6"

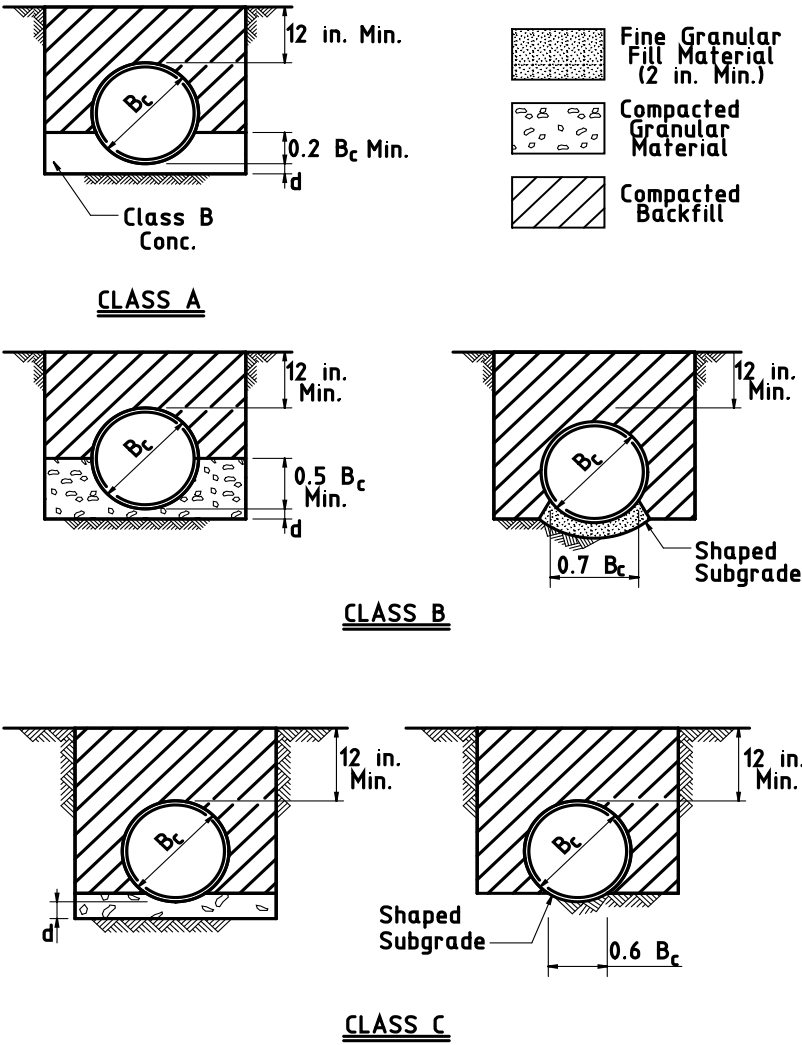


Figure 1
Bedding Diagrams

- 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 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"	0
#10	Note 1
#200	90–100

- No. 10 sieve requirements are 0 to 30% retained 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 Department.

- 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 400.3.3.1., "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 Article 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. Excavation diagrams on the plans take precedence over the provisions of this Article.

- 4.1.1. Boundaries of Measurement.

- 4.1.1.1. Pipe.

- 4.1.1.1.1. Pipe up to 42 Inches. For pipe up to 42 in. nominal or equivalent diameter, no material outside of vertical planes 1 ft. beyond and parallel to the horizontal projection of the outside surfaces of the pipe will be included.

- 4.1.1.1.2. Pipe Larger than 42 Inches. For pipes larger than 42 in. nominal or equivalent diameter, no material outside of 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 inlets, manholes, etc.

- 4.1.1.2. Structural Plate Structures. No material outside of vertical planes 3 ft. beyond and parallel to the horizontal projection of the outside surfaces of the structure will be included. When the quality of the existing soil or embankment is less than that of the proposed backfill material, the limits of measurement will be extended to vertical planes located 1/2 of the span beyond the horizontal projection of the outside surfaces of the structure.

- 4.1.1.3. Footings, Walls, Boxes, and Other Excavation. No material outside of vertical planes 1 ft. beyond and parallel to the edges of the footings or outside walls will be included whether or not 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.

- 4.1.1.4. 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 exceeds 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. PAYMENT

- 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 are 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 Article 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/Inlets, and Box Culverts," will be measured and paid for as extra work in accordance with Article 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 the plans specify or when directed, 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 Article 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 \$15 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 the plans specify or when directed, 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 \$10 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 Article 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 in accordance with Table 2.

Table 2
Payment for Required Overexcavation

Variance of Revised Footing Grade from Plan Grade	Payment Terms	Variance of Revised Footing Grade from Plan Grade
	"Structural Excavation" is a Bid Item	"Structural Excavation" is not a Bid Item
Up to and including 5 ft.	Unit price equal to 115% of unit price bid for "Structural Excavation"	\$10 per cubic yard
Over 5 ft. up to 10 ft.	Unit price equal to 125% of unit price bid for "Structural Excavation"	\$12 per cubic yard
Over 10 ft.	In accordance with Article 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 as provided in Item 401, "Flowable Backfill." Protection methods for open excavations deeper than 5 ft. will be measured and paid for as required under Item 402, "Trench Excavation Protection," or Item 403, "Temporary Special Shoring."

Item 401

Flowable Backfill



1. DESCRIPTION

Furnish and place flowable backfill for trench, hole, or other void.

2. MATERIALS

Use materials from prequalified sources listed on the Department 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.

1.1 Cement. Furnish cement in accordance with [DMS-4600](#), "Hydraulic Cement."

2.2 Fly Ash. Furnish fly ash in accordance with [DMS-4610](#), "Fly Ash."

2.3 Chemical Admixtures. Furnish chemical admixtures in accordance with [DMS-4640](#), "Chemical Admixtures for Concrete." Use specialty type admixtures to enhance the flowability, reduce shrinkage, and reduce segregation by maintaining solids in suspension when necessary. Use and proportion all admixtures in accordance with the manufacturer's recommendations.

2.4 Fine Aggregate. Provide fine aggregate that will stay in suspension in the mortar to the extent required for proper flow and that meets the gradation requirements of Table 1.

Table 1
Aggregate Gradation Chart

Sieve Size	Percent Passing
3/4"	100
#200	0–30

Test fine aggregate gradation in accordance with [Tex-401-A](#).

Plasticity Index (PI) must not exceed 6 when tested in accordance with [Tex-106-E](#).

1.5 Mixing Water. Use mixing water in accordance with Item 421, "Hydraulic Cement Concrete."

3. CONSTRUCTION

Submit a construction method and plan, including mix design, for approval. Provide a means of filling the entire void area, and be able to demonstrate this has been accomplished. Prevent the movement of any inserted structure from its designated location. Remove and replace or correct the problem if voids are found in the fill or any of the requirements are not met as shown on the plans without additional cost to the Department.

Furnish a mix meeting the requirements of Table 2 unless otherwise shown on the plans.

Table 2
Flowable Fill Mix Design Requirements

Property	Excavatable	Non-Excavatable	Test Method
28-day Compressive Strength, ¹ psi	80 to 200	> 200	ASTM D4832
Consistency, ² Min diameter, in.	8		ASTM D6103
Unit Weight, pcf	90 to 125	100 to 145	ASTM D6023
Air Content, %	10 to 30	5 to 15	ASTM D6023

1. Average of 2 specimens.
2. Mixture must not segregate.

Mix the flowable fill using a central-mixed concrete plant, ready-mix concrete truck, pug mill, or other approved method.

Furnish all labor, equipment, tools, containers, and molds required for sampling, making, transporting, curing, removal, and disposal of test specimens. Furnish test molds meeting the requirements of [Tex-447-A](#). Transport, strip, and cure the test specimens as scheduled at the designated location. Cure test specimens in accordance with [Tex-447-A](#). The Engineer will sample, make, and test all specimens. Dispose of used, broken specimens in an approved location and manner. The frequency of job-control testing will be at the direction of the Engineer.

4. MEASUREMENT

This Item will be measured by the cubic yard of material placed. Measurement will not include additional volume caused by slips, slides, or cave-ins resulting from the Contractor's operations.

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 "Flowable Backfill." This price is full compensation for furnishing, hauling, and placing materials and for equipment, tools, labor, and incidentals.

Item 402

Trench Excavation Protection



1. DESCRIPTION

Furnish and place excavation protection for trenches 5 ft. or greater in depth.

2. CONSTRUCTION

Provide vertical or sloped cuts, benches, shields, support systems, or other systems providing the necessary protection in accordance with OSHA Standards and Interpretations, 29 CFR Part 1926, Subpart P, "Excavations."

3. MEASUREMENT

This Item will be measured by the foot along the long axis of the trench where the depth of trench exceeds 5 ft. This measurement includes all required trench protection, including trench ends.

4. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Trench Excavation Protection." This price is full compensation for excavation and backfill required for excavation protection; 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.

Item 403

Temporary Special Shoring



1. DESCRIPTION

Furnish and install temporary shoring to hold the surrounding earth, water, or both out of the work area.

2. MATERIALS

Furnish new or used materials. Furnish materials that meet the requirements of Item 423, "Retaining Walls," when using temporary Mechanically Stabilized Earth (MSE) walls. Furnish materials that meet the requirements of Item 410, "Soil Nail Anchors," or 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 Department 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 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 Item 423, "Retaining Walls." Construct temporary nailed walls (rock or soil), when used, in accordance with Item 410, "Soil Nail Anchors," or 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.

Item 420

Concrete Substructures



1.	DESCRIPTION Construct concrete substructures including footings, columns, caps, abutments, piers, culverts, other bridge 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 pertinent governing specifications. 2.2. Grout or Mortar. Provide grout for dowelling anchors or precast connections in accordance with DMS-4675, "Cementitious Grouts and Mortars for Miscellaneous Applications." 2.3. Latex Curing Materials. Provide an acrylic-polymer latex admixture (acrylic resin emulsion per 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." 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 from tears and in good general condition. Provide a flap at least 6 in. wide consisting of 2 thicknesses of the covering and extending along 1 side of the mat. Provide polyethylene sheeting that is at least 4 mils thick and free from 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 from burlap impregnated on 1 side with a film of opaque white pigmented polyethylene, free from visible defects. Provide laminated mats that have at least 1 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 which complies with AASHTO 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 which will retard the setting time of concrete.

Provide used burlap complying 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](#), "Epoxyes 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 through 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 (I.D.) where Grade 2 or smaller coarse aggregate is used, and at least 8 in. I.D. for Grade 1 coarse aggregate.

- 3.2. Vibrators. Use immersion-type vibrators for consolidation of concrete. Provide at least 1 standby vibrator for emergency use. Furnish vibrator head covered by a rubberized or elastomeric cover when used near epoxy coated reinforcing steel.
- 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 $\pm 2^{\circ}\text{F}$ within the range of 32°F to 212°F for mass concrete operations, cold weather placements, and as otherwise specified.
- 3.4. Artificial Heating Equipment. Use artificial heating equipment as necessary for maintaining the concrete temperatures as specified in 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 2 or 3 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 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 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 1 set of test specimens for each element cast each day. 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 Article 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 as defined in 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 outlined in 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 Design," 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 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. Department approval is not required, except as noted 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 Department 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 liveload allowance of 50 psf of horizontal surface of the form. Do not exceed 125% of the allowable stresses used by the Department 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 liveload allowance of 50 psf of horizontal surface of the form. Do not exceed 125% of the allowable stresses used by the Department 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 liveload 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 from defects that would impair its strength. Provide timber that meets or exceeds the species, size, and grade requirements in 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 conformance 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 indicated 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 liveload allowance of 50 psf of horizontal surface for job-fabricated forms. Do not exceed 125% of the Department'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 liveload 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 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 specified in Section 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 from 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 in 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 indicated 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 imposed 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 as defined in Section 420.4.13., "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 are able to 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 clean-out openings for narrow walls and other locations where access to the bottom of the forms is not readily attainable.

- 4.4.3. 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 specifically noted 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 from 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 as provided in Item 440, "Reinforcement for Concrete." 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 accordance with the approved prestressing details and 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 as outlined in 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 according to 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 listed in Table 14 of Item 421, "Hydraulic Cement Concrete."
- 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, belt conveyors, pumps, 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 from 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 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 in accordance with plan details.
- Use light wire or nails to anchor any preformed fiber joint material to the concrete on 1 side of the joint.
- Ensure finished joints conform to the plan details 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 does 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 a saturated surface-dry condition (SSD) 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 to 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 indicated on the plans. Provide Type V epoxy per [DMS-6100](#), "Epoxies and Adhesives," 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 accordance 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 by other Items. Remove any hardened concrete splatter ahead of the plastic concrete.

Fill each part of the forms by depositing concrete as near its final position as possible. Do not deposit large quantities of concrete at 1 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 D admixture.

- 4.7.9. Consolidation. Carefully consolidate concrete and flush mortar to the form surfaces with 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, 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. Install dowels and anchor bolts by casting them in-place or by grouting with grout, epoxy, or epoxy mortar unless noted 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 by 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 to 1/4 in. greater than the dowel or bolt diameter when using neat epoxy unless indicated 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 outlined in the product specifications for pre-packaged systems.

Provide hydraulic cement grout for cast-in-place or grouted systems in accordance with [DMS-4675](#), "Cementitious Grouts and Mortars for Miscellaneous Applications." Provide a Type III epoxy per [DMS-6100](#), "Epoxyes and Adhesives," when neat epoxy is used for anchor bolts or dowels. Provide Type VIII epoxy per [DMS-6100](#), "Epoxyes and Adhesives," when an epoxy grout is used. Provide grout, epoxy, or epoxy mortar as the binding agent unless otherwise indicated 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 as specified in 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 as specified in 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 with 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. Submerge the lower end of the tremie or pump hose in the concrete at all times. Use continuous placing operations until the work is complete.

Design the concrete mix in accordance with Item 421, "Hydraulic Cement Concrete," 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 the ConcreteWorks© software available from the Department, or another approved method based on the guidelines in ACI 207, "Mass Concrete," to develop the heat control plan. The Department will make available technical assistance on the use of ConcreteWorks©. 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 minimize 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 formwork remains in place.

Furnish and install 2 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 a distance of 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 based on 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 Department 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 has been inspected and permission has been given to proceed.

Place concrete footings upon seal concrete after the cofferdams are free from 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 and 2 hr. before proceeding with the cap or tie beam placement.

- 4.7.16. Placing Concrete in Box Culverts. Allow between 1 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 as specified in 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 as a result of 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 specified 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 according to the plan details.

- 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, "Reinforcement for Concrete," 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, "Structural Field Welding," 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 Section 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 accordance 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.

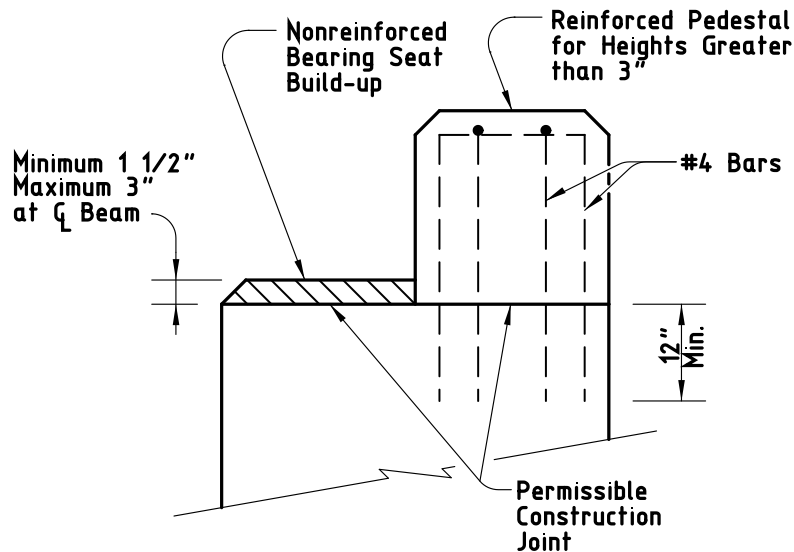


Figure 1
Section through Bearing Seat Buildups

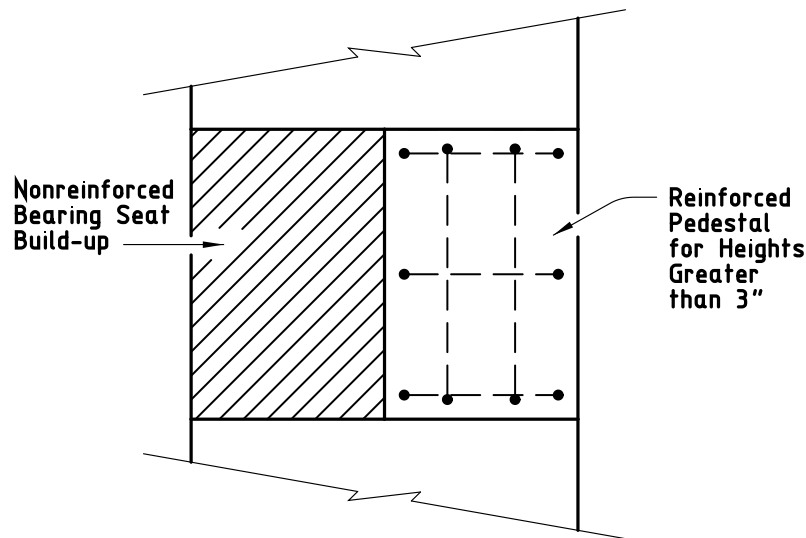


Figure 2
Plan View of Bearing Seat Buildups

- 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 job 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 indicated 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 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 indicated otherwise.

- Form cure for 48 hr. after placement.
- Form cure for 12 hr. after placement followed by membrane curing.
- For HPC Concrete, form cure for 48 hr. after placement followed by membrane curing.
- For mass concrete, form cure as required by 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 (stub walls, caps with backwalls, risers, etc.).

Cure all other concrete as specified in the pertinent Items. Use the following methods for curing concrete, subject to the requirements of 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.
- 4.10.2.1. 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.
- 4.10.2.2. Water Spray. Overlap sprays or sprinklers to keep all unformed surfaces continuously wet.
- 4.10.2.3. Ponding. Cover the surfaces with at least 2 in. of clean granular material, kept wet at all times, or at least 1 in. 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 a minimum of 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 outlined in 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 flat or textured surfaces as specified 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 procedures outlined in the *Concrete Repair Manual* available on the Department's website.
- Clean and fill holes or spalls caused by the removal of form ties, etc., with latex grout, cement grout, or epoxy grout as approved. Fill only the holes. Do not blend the patch with the surrounding concrete. On surfaces to receive a rub finish in accordance with Item 427, "Surface Finishes for Concrete," chip out exposed parts of metal chairs to a depth of 1/2 in. and repair the surface.
- 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 noted 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

This Item will be measured by the cubic yard, square yard, foot, square foot, or by each structure.

- 5.1. 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.

- 5.2. Plans Quantity. Structure elements designated in Table 1 and 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 Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

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.

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.

- 5.3. Measured in Place. Items not paid for as “plans quantity” will be measured in place.

6. 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; furnishing, placing, and stressing post-tensioning system; placing, finishing, and curing concrete; mass placement controls; applying ordinary surface finish; furnishing and placing drains, metal flashing strips, and expansion-joint material; excavation, subgrade preparation; and forms and falsework, equipment, labor, tools, and incidentals.

Price will be adjusted in accordance with Article 421.6., “Measurement and Payment” when required to address non-compliance of project acceptance testing.

Design and installation of foundations for falsework is 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.

Item 421

Hydraulic Cement Concrete



1. DESCRIPTION

Furnish hydraulic cement concrete for concrete pavements, concrete structures, and other concrete construction.

2. MATERIALS

Use materials from prequalified sources listed on the Department website. Provide coarse and fine aggregates from sources listed in the Department's *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](#), "Hydraulic Cement."

2.2. Supplementary Cementing Materials (SCM).

- Fly Ash. Furnish fly ash, ultra-fine fly ash (UFFA), and modified Class F fly ash (MFFA) conforming to [DMS-4610](#), "Fly Ash."
- Slag Cement. Furnish Slag Cement conforming to [DMS-4620](#), "Slag Cement."
- Silica Fume. Furnish silica fume conforming to [DMS-4630](#), "Silica Fume."
- Metakaolin. Furnish metakaolin conforming to [DMS-4635](#), "Metakaolin."

2.3. Cementitious Material. Cementitious materials are the cement and supplementary cementing materials used in concrete.

2.4. Chemical Admixtures. Furnish admixtures conforming to [DMS-4640](#), "Chemical Admixtures for Concrete."

2.5. 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.

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 ₂ O + 0.658K ₂ O)	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.

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.

2.6. Aggregate.

- 2.6.1. Coarse Aggregate. Provide coarse aggregate consisting of durable particles of gravel, crushed 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 Laminated 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.

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.

2.6.2.

Fine Aggregate. Provide fine aggregate consisting of clean, hard, durable particles of natural, 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 Chart (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.

2.6.3.

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, ¹ % 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, ¹ % 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.

- 2.7. Mortar and Grout. Furnish pre-packaged grouts conforming to [DMS-4675](#), "Cementitious Grouts and Mortars for Miscellaneous Applications," when specified for applications other than post-tension grouting.

Section 421.4.2.6., "Mix Design Options," does not apply for mortar and grout.

- 2.8. Storage of Materials.

- 2.8.1. 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.

- 2.8.2. 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.

- 2.8.3. 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 yr. 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.

- 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.

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

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
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 (continued) Concrete Classes
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				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
"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.	

- Design strength must be attained within 56 days.
- Do not use Grade 1 coarse aggregate except in massive foundations with 4 in. minimum clear spacing between reinforcing steel bars, unless otherwise permitted. Do not use Grade 1 aggregate in drilled shafts.
- Use Grade 8 aggregate in extruded curbs unless otherwise approved.
- Other grades of coarse aggregate maybe used in non-structural concrete classes when allowed by the Engineer.
- For information only.
- Structural concrete classes.
- Do not use Type IT cements containing > 5% limestone.
- As shown on the plans or specified.
- "X" denotes class of concrete shown on the plans or specified.
- (HPC): High Performance Concrete, (SRC): Sulfate Resistant Concrete.
- Same as class of concrete shown on the plans.

- 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 Section 421.4.8.3.1., "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.

4.2.6.1. Option 1. Replace 20% to 35% of the cement with Class F fly ash.

4.2.6.2. Option 2. Replace 35% to 50% of the cement with slag cement or MFFA.

4.2.6.3. 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.

4.2.6.4. 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.

4.2.6.5. 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.

4.2.6.6. 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 Department's MPL, certified by the Construction Division as being capable of testing according to [Tex-471-A](#).

4.2.6.7. 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:

$$\text{lb. alkali per cu. yd.} = \frac{(\text{lb. cement per cu. yd.}) \times (\% \text{ Na}_2\text{O equivalent in cement})}{100}$$

In the above calculation, use the maximum cement alkali content reported on the cement mill certificate.

4.2.6.8. 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 Department's 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.

Provide a certified test report signed and sealed by a licensed professional engineer, when HPC is required, and less than 20% of the cement is replaced with SCMs, demonstrating ASTM C1202 test results indicate the permeability of the concrete is less than 1,500 coulombs tested immediately after either of the following curing schedules:

- 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 1 yr. 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 1 yr. 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:

$$\text{Target value} = \text{Minimum design strength} \times \frac{7 - \text{day avg. trial batch strength}}{28 - \text{day avg. trial batch strength}}$$

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. During concrete production, 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 $\pm 0.3\%$ of scale capacity or $\pm 3\%$ 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 containing the information required on Department Form 596, "Concrete Batch Ticket." 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

- 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 Department-recognized equivalent written and performance testing program for the tests being performed. Personnel performing these tests are subject to Department 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 the Department 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

Tests	Test Methods
Slump ¹	Tex-415-A
Temperature ¹	Tex-422-A
Air Content ^{1,2}	Tex-414-A , Tex-416-A , or ASTM C457

- Job-control testing performed by the Contractor.
- 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.

- 4.8.3.1. 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

Concrete 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 Article 421.5., "Acceptance of Concrete."

- 4.8.3.2. Strength Specimen Handling. Remove specimens from their molds and deliver Department 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 Article 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:

$$A = B_p \left[-5.37 \left(\frac{S_a}{S_s} \right)^2 + 11.69 \left(\frac{S_a}{S_s} \right) - 5.32 \right]$$

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.

Item 431

Pneumatically Placed Concrete



1. DESCRIPTION

Furnish and place pneumatically applied concrete for the construction of portions of structures, repairing concrete structures, encasement of structural steel members, lining ditches and tunnels, soil-nail walls, retaining walls, and other work as shown on the plans or as directed.

2. MATERIALS

Provide pre-bagged concrete materials for concrete structure repair and class of concrete shown on the plans for other work unless otherwise shown on the plans.

Submit pre-bagged materials information for approval. Material testing may be required before approval and installation test panels will be required in accordance with Section 431.2.4., "Proportioning and Mixing."

Provide materials in accordance with the pertinent requirements of the following Items with the exceptions noted in Section 431.2.1., "Exceptions to Item 421, 'Hydraulic Cement Concrete,'" Section 431.2.2., "Exceptions to Item 440, 'Reinforcement for Concrete,'" and Section 431.2.3., "Exception to [DMS-6310](#), 'Joint Sealants and Fillers.'"

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"
- [DMS-4655](#), "Concrete Repair Materials"
- [DMS-6310](#), "Joint Sealants and Fillers"

- 2.1. Exceptions to Item 421, "**Hydraulic Cement Concrete.**" Provide a fine aggregate that meets the requirements of Item 421, "Hydraulic Cement Concrete," Table 6, Grade 1, and a coarse aggregate that meets the requirements of Item 421, "Hydraulic Cement Concrete," Table 4, Grade 7, unless otherwise noted on the plans.
- 2.2. Exceptions to Item **440, "Reinforcement for Concrete.**" Provide mushroom headed steel anchors or expansion anchor hook bolts with a minimum diameter of 1/8 in. and a minimum length of 2 in. to attach reinforcement for the repair of concrete structures as shown on the plans or as directed. Reinforcing steel may be either welded wire fabric or reinforcing bars unless otherwise shown on the plans.
- 2.3. Exception to [DMS-6310](#), "**Joint Sealants and Fillers.**" Provide a preformed bituminous fiber material unless otherwise noted on the plans.
- 2.4. Proportioning and Mixing. Submit for approval a proposed mix design conforming to the basic mix design requirements provided in Table 1 unless otherwise shown on the plans.

Table 1
Classes of Concrete

Class	Ratio of Cement to Total Aggregate ¹	Minimum 7-Day Compressive Strength (psi) ²
I	1:4	3,000
II	1:5	2,500

1. More cement may be used when approved.
2. Higher minimum strengths may be specified.

Measure the cement and aggregates by volume and mix with enough water to achieve the desired consistency. Use as little water as possible to achieve sufficient adhesion. Mix concrete sufficiently dry so it will not sag or fall from vertical or inclined surfaces or separate in horizontal work.

Prepare test panels using the same air pressure, nozzle tip, and position to be used for the production work to verify the mix design before approval. Apply a 3-in. layer of concrete to a plywood sheet with minimum dimensions of 18 in. × 18 in. for each test panel. Cure the test panels in the same manner as the proposed work.

Take 3 cores, each 2 in. in diameter, out of each test panel and test in compression at 7 days in accordance with [Tex-424-A](#). The mix design will be approved when the average strength of the 3 cores conforms to the strengths shown in Table 1. Provide additional test panels as directed if there are any changes in materials, equipment, or nozzle operator during the work.

3. CONSTRUCTION

- 3.1. Qualification. Provide experienced personnel able to produce concrete satisfying plan requirements and of uniform quality as required. Provide documentation of nozzle operator's qualification for the process proposed and orientation of the application meeting the minimum requirements when shown on the plans.

Demonstrate nozzle operator's abilities by constructing test panels before commencement of work. Orient test panels to match application direction of placement. Include reinforcing steel in the test panel with similar spacing as in member. Qualification test panels may be used for mix verification in accordance with Section 431.2.4., "Proportioning and Mixing."

- 3.2. Surface Preparation. Grade the area of proposed work accurately to the elevation and dimensions shown on the plans when concrete is to be placed against soil. Compact with sufficient moisture to provide a firm foundation and to prevent absorption of water from the concrete but without free surface moisture.

Remove paint, rust, loose mill scale, grease or oil, and all other foreign materials that may reduce the bond of the concrete to the steel when concrete is used to encase structural steel members.

Remove all deteriorated or loose material by chipping with pneumatic, electric, or hand tools when concrete is placed against concrete or rock. Cut square or slightly undercut shoulders approximately 1 in. deep along the perimeter of repair areas. Sandblast the surface to clean all rust from exposed reinforcing steel and to produce a clean rough-textured surface on the concrete or rock. Wet the surface against which the concrete will be placed for at least 1 hour with potable water. Place the concrete when the surface has dried to a saturated surface-dry (SSD) condition. Achieve SSD conditions by high-pressure water blasting 15 to 30 min. before placing the repair material, soaking a minimum of 12 hr., or by other approved methods. An SSD condition is achieved when the surface remains damp when exposed to sunlight for 15 min.

Provide joints, side forms, headers, and shooting strips for backing or paneling. Use ground or gauging wires where necessary to establish thickness, surface planes, and finish lines.

- 3.3. Reinforcement. Place and secure reinforcement to ensure there is no displacement from impact of applying pneumatically placed concrete. Place reinforcing bars at a spacing not less than 2-1/2 in. Support reinforcing wire fabric or bars using mushroom headed anchors, expansion hook bolts, or grouted rebar capable of resisting a pullout force of 2,500 lb. Space anchors no more than 12 in. center-to-center on overhead

surfaces, 18 in. center-to-center on vertical surfaces, and 36 in. center-to-center on top horizontal surfaces. Use at least 3 anchors in each individual patch area. Do not use explosive force to shoot anchors into concrete. Check the resistance to pullout of the reinforcing anchors when directed. Notify the Engineer before installation of the anchors. Locate anchors so there is no damage to prestressing tendons or conduits embedded in the concrete.

Use reinforcement when performing repair work in all areas where the thickness of the concrete will exceed 1-1/2 in. Use a single layer of either 2 × 2 – W1.2 × W1.2 or 3 × 3 – W1.5 × W1.5 of welded wire fabric, or approved equivalent, unless noted otherwise on the plans. Use a single layer of wire fabric to reinforce each 4 in. thickness of patch or fractional part in areas where the concrete thickness exceeds 4 in. Encase completely each layer of wire fabric in concrete that has taken its initial set before installing the succeeding layer of wire fabric. Place the reinforcing fabric parallel to the finished surface, and support it so it will be at least 3/4 in. out from the surface to be covered. Provide at least 1 in. clearance between the finished concrete surface and all steel items including anchors, reinforcing bars, and wire fabric. Lap adjacent fabric sheets at least 6 in. and tie together securely at a spacing of no more than 18 in. Pre-bend fabric before installing to fit around corners and into re-entrant angles.

Pre-bend the welded wire fabric for encasement of steel members using a template to conform as nearly as possible to the outlines of the members to be encased. Drill holes between 1/2 and 1 in. in diameter in the webs of the members as close as possible to the flanges to allow for attachment of the reinforcing fabric. Space these holes at approximately 3 ft. on center. Use 3/8-in. diameter rods placed through these holes to secure the reinforcing fabric. Hold the reinforcing fabric at least 3/4 in. out from the surface of the steel member. Lap adjacent fabric sheets at least 6 in. and tie together at a spacing of no more than 12 in.

- 3.4. Pneumatic Placement of Concrete. Pneumatically applied concrete can be either dry-mix or wet-mix. The dry-mix process consists of dry-mixed fine aggregate and hydraulic cement to which water is added immediately before its pneumatic expulsion from a nozzle. The wet-mix process consists of mechanically premixed concrete pneumatically applied through a nozzle.

- 3.4.1. General. Place the concrete when the ambient temperature is above 35°F and rising and material temperature is between 50°F and 90°F for wet-mix and below 100°F for dry-mix. Do not place concrete against a surface containing frost, ice, or standing water. Protect concrete from freezing or quick drying after placement. Apply the concrete using pneumatic equipment that sprays the mix onto the prepared surface at a velocity less than 100 ft. per second for construction of portions of structures, repairing concrete structures, or encasement of structural steel members. Minimize rebound and produce a compacted dense homogenous mass. Do not apply concrete if high winds will prevent proper application or if rain could wash out the concrete.

Hold the nozzle approximately 2 to 4 ft. from the surface and position it so the concrete impinges nearly at right angles to the surface being covered. Use shooting strips to ensure straight lines, square corners, and a plane surface of concrete. Place to keep the trapping of rebound to a minimum. Slope the concrete off to a thin edge at the end of each day's work or at similar stopping periods requiring construction joint. Thoroughly clean and wet previously placed concrete before placing an adjacent or additional section. Apply a sufficient number of coats to obtain the required thickness. Place coats on vertical and overhead surfaces in layers of such thickness to prevent sloughing, sagging, tearing, or debonding. Provide a sufficient interval between successive layers in sloping, vertical, or overhead work to allow initial but not final set. Clean the surface to remove the thin film of laitance to provide for a bond with succeeding applications. Remove rebound and accumulated loose sand from the surface to be covered before placing of the original or succeeding layers of concrete. Correct any sags or other defects to the proper section as directed.

Place concrete to completely encase reinforcing steel. Encase reinforcing steel by shooting with sufficient velocity and plasticity that material flows around and behind reinforcement.

Apply the concrete using either the wet-mix or dry-mix process unless otherwise noted on the plans. Mix the materials thoroughly and uniformly using a paddle or drum type mixer designed for pneumatic application. Wet-mix process applications can use transit-mix concrete. Do not use the wet-mix process for repair of damaged concrete.

Clean mixing and placing equipment at regular intervals. Inspect the nozzle liner and water and air injection system daily; replace worn parts as necessary.

Do not reuse rebound or overspray concrete.

- 3.4.2. Dry-Mix Process. Use a compressor or blower capable of delivering a sufficient volume of oil-free air at the pressure shown in Table 2. Maintain steady pressure throughout the placing process.

Use a water pump with the size and capacity to deliver water to the nozzle with a pressure at least 15 psi more than the required air pressure.

The values shown in Table 2 are based on a hose length of 150 ft. with the nozzle less than 25 ft. above the delivery equipment. Increase operating pressure approximately 5 psi for each additional 50 ft. of hose and approximately 5 psi for each 25 ft. the nozzle is raised.

Table 2
Compressor Capacities

Compressor Capacity, CFM	Hose Diameter, in.	Maximum Size of Nozzle Tip, in.	Operating Air Pressure Available, psi
250	1	3/4	40
315	1-1/4	1	45
365	1-1/2	1-1/4	55
500	1-5/8	1-1/2	65
600	1-3/4	1-5/8	75
750	2	1-3/4	85

- 3.4.3. Wet-Mix Process. Operate the pump at a line pressure between 100 psi and 300 psi. Use delivery hoses between 1-1/2 in. and 3 in. in diameter. Use mixing equipment capable of thoroughly mixing the materials in sufficient quantity to maintain continuous placement.
- 3.5. Construction Joints. Use a square butt joint where the joint is subject to compressive stress or is over existing construction joints unless noted otherwise on the plans. Use tapered or square butt joints at other locations. Square the outside 1 in. of tapered joints perpendicular to the surface.
- 3.6. Finish. Use a sharp trowel to cut off all high spots after the concrete has been placed to the desired thickness or screed to a true plane as determined by shooting strips or by the original concrete surface. Lightly apply cutting screeds, where used, to all surfaces so as not to disturb the concrete for an appreciable depth. Work in an upward direction when concrete is applied on vertical surfaces. Give the finished concrete a final flash coat of about 1/8 in. unless directed otherwise. Obtain a uniform appearance on all exposed surfaces unless otherwise shown on the plans.
- 3.7. Curing. Cure encasements with water for 4 days. Cure repairs and structural construction using either a piece of wet burlap taped over the repaired area with a covering of 4-mil minimum plastic sheet also taped in place or membrane curing as approved. Overlap the burlap with the plastic sheet and continuously tape the edges with a tape at least 3 in. wide (air duct tape or better) to completely enclose the mat and hold in moisture. Cure in this manner for 4 days. Curing is not required for soil-nail walls unless walls are the final exposed surfaces, which in this case, cure at least 4 days in accordance with Item 420, "Concrete Substructures." Apply membrane curing in accordance with Section 420.2.7., "Curing Materials," for tunnel and ditch linings and vertical or overhead patches as approved.
- 3.8. Repair of Defects. Repair or replace debonded areas as directed.

4. MEASUREMENT

Measurement of pneumatically placed concrete for encasement of structural members will be by the square foot of the actual contact area.

Measurement of pneumatically placed concrete for repair of concrete structures will be by the cubic foot in place using the surface area times the average depth of the patch. When pneumatically placed concrete for repair of concrete structures is allowed or specified for Item 429, "Concrete Structure Repair," measurement and payment is in accordance with Article 429.5., "Payment."

5.

PAYMENT

When pneumatically placed concrete is specified as a bid item, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Pneumatically Placed Concrete (Encasement)" or for "Pneumatically Placed Concrete (Repair)." This price is full compensation for cement, aggregate, water, and reinforcement; furnishing and installing steel anchors; removal of deteriorated or unsound concrete; mixing, placing, and curing pneumatically placed concrete; and equipment, labor, tools, and incidentals. Pneumatically placed concrete used for work other than encasement or repair will not be paid for directly but will be considered subsidiary to pertinent Items.

Item 432

Riprap



1. DESCRIPTION

Furnish and place concrete, stone, cement-stabilized, or special riprap.

2. MATERIALS

Furnish materials in accordance with the following Items.

- Item 420, "Concrete Substructures,"
- Item 421, "Hydraulic Cement Concrete,"
- Item 431, "Pneumatically Placed Concrete,"
- Item 440, "Reinforcement for Concrete," and
- [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 on the plans.

2.3. Stone Riprap. Use durable natural stone with a bulk specific gravity of at least 2.50 as determined by [Tex-403-A](#) unless otherwise shown on the plans. Provide stone that, when tested in accordance with [Tex-411-A](#), has weight loss of no more than 18% after 5 cycles of magnesium sulfate solution.

Perform a size verification test on the first 5,000 sq. yd. of finished riprap stone for all types of stone riprap at a location determined by the Engineer. Test the riprap stone in accordance with ASTM D5519. Additional tests may be required. Do not place additional riprap until the initial 5,000 sq. yd. of riprap has been approved.

Provide grout or mortar in accordance with Item 421, "Hydraulic Cement Concrete," when specified. Provide grout with a consistency that will flow into and fill all voids.

Provide filter fabric in accordance with [DMS-6200](#), "Filter Fabric." Provide Type 2 filter fabric for protection stone riprap unless otherwise shown on the plans. Provide Type 2 filter fabric for Type R, F, or Common stone riprap when shown on the plans.

2.3.1. Type R. Use stones between 50 and 250 lb. with at least 50% of the stones heavier than 100 lb.

2.3.2. Type F. Use stones between 50 and 250 lb. with at least 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. Cut exposed reinforcement flush with all surfaces before placement of each piece of broken concrete.

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. Cut exposed reinforcement flush with all surfaces before placement of each piece of broken

concrete. Determine gradation of the finished, in-place, riprap stone under the direct supervision of the Engineer in accordance with ASTM D5519.

Table 1
In-Place Protection Riprap Gradation Requirements

Size	Maximum Size (lb.)	90% Size ¹ (lb.)	50% Size ² (lb.)	8% Size ³ Minimum (lb.)
12 in.	200	80–180	30–75	3
15 in.	320	170–300	60–165	20
18 in.	530	290–475	105–220	22
21 in.	800	460–720	175–300	25
24 in.	1,000	550–850	200–325	30
30 in.	2,600	1,150–2,250	400–900	40

1. Defined as that size such that 10% of the total riprap stone, by weight, is larger and 90% is smaller.
2. Defined as that size such that 50% of the total riprap stone, by weight, is larger and 50% is smaller.
3. Defined as that size such that 92% of the total riprap stone, by weight, is larger and 8% is smaller.

The Engineer may require in-place verification of the stone size. Determine the in-place size of the riprap stone by taking linear transects along the riprap and measuring the intermediate axis of the stone at select intervals. Place a tape measure along the riprap and determine the intermediate axis size of the stone at 2 ft. intervals. Measure a minimum of 100 stones, either in a single transect or in multiple transects, then follow ASTM D5519 Test Procedure Part B to determine the gradation. Table 2 is a guide for comparing the stone size in inches to the stone weight shown in Table 1.

Table 2
Protection Riprap Stone Size¹

Size	Dmax (in.)	D90 (in.)	D50 (in.)	D8 (in.)
12 in.	13.76	10.14–13.29	7.31–9.92	3.39
15 in.	16.10	13.04–15.75	9.21–12.91	6.39
18 in.	19.04	15.58–18.36	11.10–14.21	6.59
21 in.	21.85	18.17–21.09	13.16–15.75	6.88
24 in.	23.53	19.28–22.29	13.76–16.18	7.31
30 in.	32.36	24.65–30.84	17.34–22.72	8.05

1. Based on a Specific Gravity of 2.5 and using the following equation for the intermediate axis diameter $D = \{(12 \cdot W) / (G_s \cdot 62.4 \cdot 0.85)\}^{1/3}$

where:

D = intermediate axis diameter in in.;

W = weight of stone in lbs.;

G_s = Specific Gravity of stone.

Note—If the Specific Gravity of the stone is different than 2.5, then the above equation can be used to determine the appropriate size using the actual Specific Gravity.

If required, provide bedding stone that, in-place, meets the gradation requirements shown in Table 3 or as otherwise shown on the plans. Determine the size distribution in Table 3 in accordance with ASTM D6913.

Table 3
Protection Riprap Bedding Material Gradation Requirements

Sieve Size (Sq. Mesh)	% by Weight Passing
3"	100
1-1/2"	50–80
3/4"	20–60
#4	0–15
#10	0–5

- 2.4. Cement-Stabilized Riprap. Provide aggregate that meets Item 247, "Flexible Base," for the type and grade shown on the 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 $6 \times 6 - W2.9 \times W2.9$ 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. Provide horizontal cover of at least 1 in. and no more than 3 in. at the edge of the riprap. Place the first parallel bar no more than 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.

Sprinkle or sprinkle and consolidate the subgrade before the concrete is placed as directed. All surfaces must be moist when concrete is placed.

Compact and shape the concrete once it has been placed to conform to the dimensions shown on the plans. Finish the surface with a wood float after it has set sufficiently to avoid slumping to secure a smooth surface or broom finish as approved.

Cure the riprap immediately after the finishing operation according to Item 420, "Concrete Substructures."

- 3.2. Stone Riprap. Provide the following types of stone riprap when shown on the plans:

- Dry Riprap. Stone riprap with voids filled with only spalls or small stones.
- Grouted Riprap. Type R, F, or Common stone riprap with voids grouted after all the stones are in place.
- Mortared Riprap. 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.

Place mortar or grout only when the air temperature is above 35°F. Protect work from rapid drying for at least 3 days after placement.

Place filter fabric with the length running up and down the slope unless otherwise approved. 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. Construct riprap as shown in Figure 1 on the *Stone Riprap Standard* and as shown on the plans. Place stones in a single layer with close joints so most of their weight is carried by the earth and not the adjacent stones. Place the upright axis of the stones at an angle of approximately 90° to the embankment slope. Place each course from the bottom of the embankment upward with the larger stones in the lower courses.

Fill open joints between stones with spalls. Place stones to create a uniform finished top surface. Do not exceed a 6-in. variation between the tops of adjacent stones. Replace, embed deeper, or chip away stones that project more than the allowable amount above the finished surface.

Prevent earth, sand, or foreign material from filling the spaces between the stones when the plans require Type R stone riprap to be grouted. Wet the stones thoroughly after they are in place, fill the spaces between the stones with grout, and pack. Sweep the surface of the riprap with a stiff broom after grouting.

3.2.2. Type F.

3.2.2.1. Dry Placement. Construct riprap as shown in Figure 2 on the *Stone Riprap Standard*. 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.

3.2.2.2. Grouting. Construct riprap as shown in Figure 3 on the *Stone Riprap Standard*. 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 variation no more than 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. Wet the stones thoroughly after they are in place, fill the spaces between them with grout, and pack. Sweep the surface with a stiff broom after grouting.

3.2.2.3. Mortaring. Construct riprap as shown in Figure 2 on the *Stone Riprap Standard*. Lap courses as described for dry placement. Wet the stones thoroughly before placing mortar. Bed the larger stones in fresh mortar as they are being placed and shove adjacent stones into contact with one another. Spread 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 shallow, smooth-raked joints as directed.

3.2.3. Common. Construct riprap as shown in Figure 4 on the *Stone Riprap Standard*. 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.

Prevent earth, sand, or foreign material from filling the spaces between the stones when the plans require grouting common stone riprap. Wet the stones thoroughly after they are in place; fill the spaces between them with grout; and pack. Sweep the surface with a stiff broom after grouting.

3.2.4. Protection. Construct riprap as shown in Figure 5 on the *Stone Riprap Standard*. Place riprap stone on the slopes within the limits shown on the plans. Place stone for riprap on the filter fabric 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 filter fabric. Ensure 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. Use the bedding thickness shown and place stone for riprap on the bedding material to produce a reasonably well-graded mass of riprap with the minimum practicable percentage of voids if required on the plans.

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, "Reinforcement for Concrete." Support reinforcement with approved supports throughout placement of concrete.

Give the surface a wood-float finish or a gun finish as directed. Cure the riprap with membrane-curing compound immediately after the finishing operation in accordance with Item 420, "Concrete Substructures."

- 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

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.

If required on the plans, the pay quantity of the bedding material for stone riprap for protection 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.

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 "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.

Item 440

Reinforcement for Concrete



1. DESCRIPTION

Furnish and place reinforcement of the type, size, and details shown on the plans.

2. MATERIALS

Use deformed steel bar reinforcement unless otherwise specified or allowed.

- 2.1. Approved Mills. Before furnishing steel, producing mills of reinforcing steel for the Department must be pre-approved in accordance with [DMS-7320](#), "Qualification Procedure for Reinforcing Steel Producing Mills," by the Construction Division. The Department's MPL has a list of approved producing mills. Reinforcing steel obtained from unapproved sources will not be accepted.

Contact the 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
Size, Area, and Weight of Reinforcing Steel Bars

Bar Size Number (in.)	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

- 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.

Provide smooth or deformed wire conforming to ASTM A1064. Provide bars conforming to ASTM A615; ASTM A996, Type A; or ASTM A675, Grade 80, meeting dimensional requirements of ASTM A615.

- 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).

Table 2
Wire Size Number, Diameter, and Area

Size Number (in.)	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	0.035
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

Note—Size numbers (in.) 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.

- 2.7. 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](#), "Qualification Procedure for Reinforcing Steel Epoxy Coating Applicators." The Department'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

Use epoxy coating material and coating repair material that complies with [DMS-8130](#), "Epoxy Powder Coating for Reinforcing Steel." Patch no more than 1/4-in. total length in any foot at the applicator's plant.

Maintain identification of all reinforcing steel throughout the coating and fabrication process and until delivery to the project site.

Furnish 1 copy of a written certification verifying the coated reinforcing steel meets the requirements of this Item and 1 copy of the manufacturer's control tests.

- 2.8. Mechanical Couplers. Use couplers of the type specified in [DMS-4510](#), "Mechanical Couplers for Reinforcing Steel," 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](#), "Mechanical Couplers for Reinforcing Steel." 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](#), "Mechanical Couplers for Reinforcing Steel." 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](#) "Fibers for Concrete" at the minimum dosage listed in the Department's 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. 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 (in.)	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.

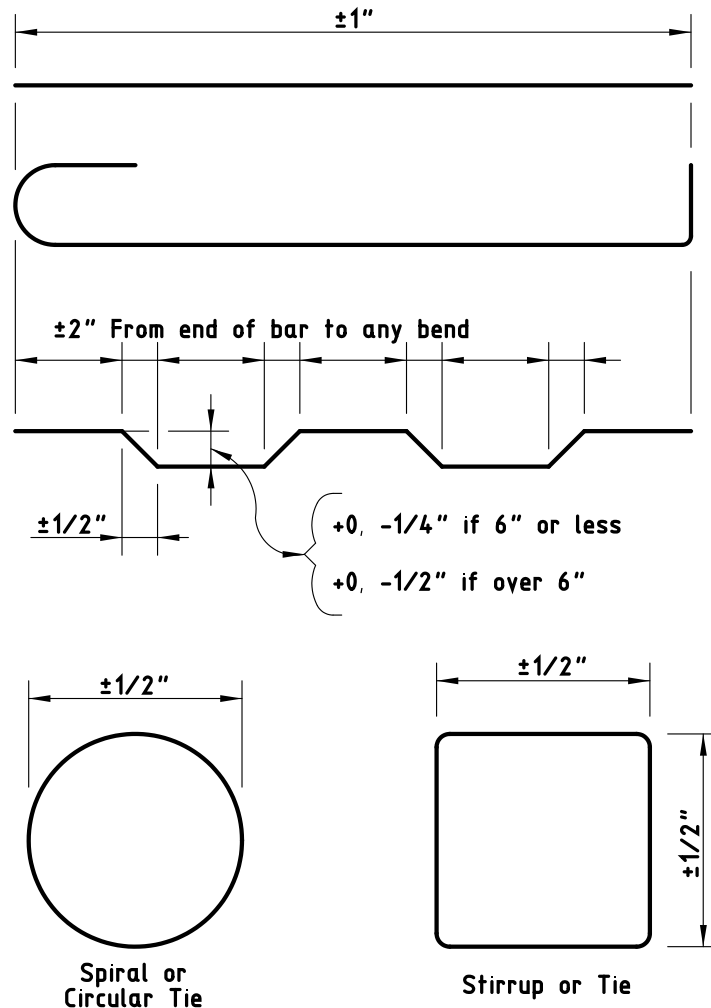


Figure 1
Fabrication Tolerances for Bars

- 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.

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.
- Do not splice bars less than 30 ft. in plan length unless otherwise approved. For bars exceeding 30 ft. in plan length, the distance center-to-center of splices must be at least 30 ft. minus 1 splice length, with no more than 1 individual bar length less than 10 ft. Make lap splices not shown on the plans, but otherwise

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.

Table 6
Minimum Lap Requirements for Steel Bar Sizes through No. 11

Bar Size Number (in.)	Uncoated Lap Length	Coated Lap Length
3	1 ft. 4 in.	2 ft. 0 in.
4	1 ft. 9 in.	2 ft. 8 in.
5	2 ft. 2 in.	3 ft. 3 in.
6	2 ft. 7 in.	3 ft. 11 in.
7	3 ft. 5 in.	5 ft. 2 in.
8	4 ft. 6 in.	6 ft. 9 in.
9	5 ft. 8 in.	8 ft. 6 in.
10	7 ft. 3 in.	10 ft. 11 in.
11	8 ft. 11 in.	13 ft. 5 in.

- Do not lap No. 14 or No. 18 bars.
- Lap spiral steel at least 1 turn.
- 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.
- 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.
- 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.
- 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.
- 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 Reinforcing 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 440.3.6.3., "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 Section 440.2.10., "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.

Item 462

Concrete Box Culverts and Drains



1. DESCRIPTION

Furnish, construct, and install concrete box culverts and drains.

2. MATERIALS

2.1. General. Furnish materials in accordance with the following.

- Item 420, "Concrete Substructures,"
- Item 421, "Hydraulic Cement Concrete,"
- Item 440, "Reinforcement for Concrete," and
- Item 464, "Reinforced Concrete Pipe."

Provide cast-in-place or precast, formed or machine-made, box culverts, and drains. Use Class S concrete for top slabs of cast-in-place concrete culverts for culverts with overlay, a 1- to 2-course surface treatment or a top slab that is the final riding surface unless otherwise shown on the plans. Use Class C concrete for the rest of the culvert and for all other cast-in-place boxes. Culverts with fill do not require Class S concrete.

Furnish material for machine-made precast boxes in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification."

2.2. Fabrication.

2.2.1. Cast-in-Place. Meet Item 420, "Concrete Substructures" and Item 422, "Concrete Superstructures."

2.2.2. Formed Precast. Meet Item 424, "Precast Concrete Structural Members (Fabrication)."

2.2.3. Machine-Made Precast. Machine-made precast box culvert fabrication plants must be approved in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification." The Department's MPL shows approved machine-made precast box culvert plants. Fabricate machine-made precast boxes in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification."

2.3. Testing.

2.3.1. Cast-in-Place. Provide test specimens that meet Item 421, "Hydraulic Cement Concrete."

2.3.2. Formed Precast. Make, cure, and test compressive test specimens in accordance with [Tex-704-I](#).

2.3.3. Machine-Made Precast. Make, cure, and test compressive test specimens in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification."

2.3.4. Testing Equipment. The producer must furnish all equipment required for testing concrete for boxes produced in a precasting plant.

2.4. Lifting Holes. Provide no more than 4 lifting holes in each section for precast boxes. Lifting holes may be cast, cut into fresh concrete after form removal, or drilled. Provide lifting holes large enough for adequate

lifting devices based on the size and weight of the box section. Use lifting holes no larger than 3 in. in diameter. Cut no more than 5 in. in any direction of reinforcement per layer for lifting holes.

2.5. Marking. Mark precast boxes with the following:

- name or trademark of fabricator and plant location;
- ASTM designation;
- date of manufacture;
- box size;
- minimum and maximum fill heights;
- designated fabricator's approval stamp;
- boxes to be used for jacking and boring (when applicable);
- designation "SR" for boxes meeting sulfate-resistant concrete plan requirements (when applicable); and
- match-marks for proper installation, when required under Section 462.2.6., "Tolerances."

Mark 1 end of each box section, for boxes without lifting holes, on the inside and outside walls to indicate the top or bottom as it will be installed.

Indent markings into the box section or paint them on each box with waterproof paint.

2.6. Tolerances. Ensure precast sections meet the permissible variations listed in ASTM C1577 and that the sides of a section at each end do not vary from being perpendicular to the top and bottom by more than 1/2 in. when measured diagonally between opposite interior corners.

Ensure wall and slab thicknesses are not less than shown on the plans except for occasional deficiencies not greater than 3/16 in. or 5%, whichever is greater. If proper jointing is not affected, thicknesses in excess of plan requirements are acceptable.

Deviations from the above tolerances will be acceptable if the sections can be fitted at the plant or jobsite and the joint opening at any point does not exceed 1 in. Use match-marks for proper installation on sections that have been accepted in this manner.

2.6.1. Boxes for Jacking Operations. Use boxes for jacking operations as defined in Item 476, "Jacking, Boring, or Tunneling Pipe or Box," meeting the following additional requirements:

- The box ends must be square such that no point deviates more than 3/8 in. from a plane placed on the end of the box that is perpendicular to the box sides, and
- The slab and wall thicknesses must not be less than specified on the plans and must not exceed the specified thickness by more than 1/2 in.

2.7. Defects and Repair. Fine cracks on the surface of the member that do not extend to the plane of the nearest reinforcement are acceptable unless the cracks are numerous and extensive. Repair cracks that extend into the plane of the reinforcing steel in an approved manner. Excessive damage, honeycomb, or cracking will be subject to structural review. The Engineer may accept boxes with repairs that are sound, properly finished, and cured in conformance with pertinent specifications. Discontinue further production of precast sections when fine cracks on the surface indicate poor curing practices until corrections are made and proper curing is provided.

Repair machine-made precast boxes in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification."

2.8. Storage and Shipment. Store precast sections on a level surface. Do not place any load on the sections until design strength is reached and curing is complete. Shipment of sections is permissible when the design strength and curing requirements have been met.

Store and ship machine-made precast boxes in accordance with [DMS-7310](#), "Reinforced Concrete Pipe and Machine-Made Precast Concrete Box Culvert Fabrication and Plant Qualification."

3. CONSTRUCTION

- 3.1. Excavation, Shaping, Bedding, and Backfill. Excavate, shape, bed, and backfill in accordance with Item 400, "Excavation and Backfill for Structures," except where jacking, boring, or tunneling methods are shown on the plans or permitted. Jack, bore, or tunnel in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box." Immediate backfilling is permitted for all box structures where joints consist of materials other than mortar. Take precautions in placing and compacting the backfill to avoid any movement of the boxes or damage to the joints. Remove and replace boxes damaged by the Contractor at no expense to the Department.
- 3.2. Placement of Boxes. Place the box sections in conformance with the plans or as directed when precast boxes are used to form multiple barrel structures. Place material to be used between barrels as shown on the plans or as directed. Start the laying of boxes on the bedding at the outlet end and proceed toward the inlet end with the abutting sections properly matched unless otherwise authorized. Fit, match, and lay the boxes to form a smooth, uniform conduit true to the established lines and grades. Lower the box sections into the trench, for trench installations, without damaging the box or disturbing the bedding and the sides of the trench. Carefully clean the ends of the box before it is placed. Prevent the earth or bedding material from entering the box as it is laid. Remove and re-lay, without extra compensation, boxes that are not in alignment or show excessive settlement after laying. Form and place cast-in-place boxes in accordance with Item 420, "Concrete Substructures."
- 3.3. Jointing. Use any of the jointing materials in accordance with the joint requirements specified in Item 464, "Reinforced Concrete Pipe," unless otherwise shown on the plans. Box joints for rubber gasketed material may be substituted for tongue and groove joints, provided they meet the requirements of ASTM C1677 for design of the joints and permissible variations in dimensions.
- 3.4. Connections and Stub Ends. Make connections of boxes to existing boxes, pipes, drains, or drain appurtenances as shown on the plans. Mortar or concrete the bottom of existing structures if necessary to eliminate any drainage pockets created by the connections. Connect boxes to any required headwalls, wingwalls, safety end treatments or riprap, or other structures as shown on the plans or as directed. Repair any damage to the existing structure resulting from making the connections. Finish stub ends for connections to future work not shown on the plans by installing watertight plugs into the free end of the box.

Fill lifting holes with mortar or concrete and cure for precast boxes. Precast concrete or mortar plugs may be used.
- 3.5. Extending. Break back and extend existing culverts in accordance with Section 420.4.8 "Extending Existing Substructures," and Section 422.4.5 "Extending Existing Slabs," as applicable.

4. MEASUREMENT

This Item will be measured by the foot. Measurement will be made between the ends of the culvert or drain along the flow line, not including safety end treatments. Safety end treatments will be measured in accordance with Item 467, "Safety End Treatment." Measurement of spurs, branches, or new connection box section will be made from the intersection of the flow line with the outside surface of the structure into which it connects. Where inlets, headwalls, wingwalls, catch basins, manholes, junction chambers, or other structures are included in lines of culverts or drains, the length of box section tying into the structure wall will be included for measurement, but no other portion of the structure length or width will be included.

The measured length of multiple barrel structures will be the sum of the lengths of the barrels.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Concrete Box Culvert" of the size specified. This price is full compensation for constructing, furnishing, and transporting sections; preparation and shaping of the bed; backfill material between box sections; jointing of sections; jointing material; cutting of sections on skew or slope; connections to new or existing structures; breaking back, removing and disposing of portions of the existing structure and replacing portions of the existing structure as required to make connections; concrete and reinforcing steel; and equipment, labor, materials, tools, and incidentals.

Protection methods for excavations greater than 5 ft. deep will be measured and paid for as required under Item 402, "Trench Excavation Protection," or Item 403, "Temporary Special Shoring." Excavation, shaping, bedding, and backfill will be paid for in accordance with Item 400, "Excavation and Backfill for Structures." When jacking, boring, or tunneling is used at the Contractor's option, payment will be made under this item. When jacking, boring, or tunneling is required, payment will be made under Item 476, "Jacking, Boring, or Tunneling Pipe or Box."

Item 466

Headwalls and Wingwalls



1. DESCRIPTION

Furnish, construct, and install concrete headwalls and wingwalls for drainage structures and underpasses.

2. MATERIALS

2.1. General. Furnish materials in accordance with the following.

- Item 420, "Concrete Substructures,"
- Item 421, "Hydraulic Cement Concrete," and
- Item 440, "Reinforcement for Concrete."

Use Class C concrete for cast-in-place and precast concrete units unless otherwise shown on the plans. Furnish cast-in-place or precast headwalls and wingwalls unless otherwise shown on the plans.

2.2. Fabrication.

2.2.1. General. Fabricate cast-in-place concrete units and precast units in accordance with Item 420 "Concrete Substructures." Use the following definitions for headwalls and wingwalls:

- "Headwalls" refers to all walls, including wings, at the ends of single-barrel and multiple-barrel pipe culvert structures.
- "Wingwalls" refers to all walls at the ends of single-barrel or multiple-barrel box culvert structures.

2.2.2. Lifting Holes. Provide no more than 4 lifting holes in each section for precast units. Lifting holes may be cast, cut into fresh concrete after form removal, or drilled. Provide lifting holes large enough for adequate lifting devices based on the size and weight of the section. The maximum hole diameter is 3 in. at the inside surface of the wall and 4 in. at the outside surface. Cut no more than 1 longitudinal wire or 2 circumferential wires per layer of reinforcing steel when locating lift holes. Repair spalled areas around lifting holes.

2.2.3. Marking. Clearly mark each precast unit before shipment from the casting or fabrication yard with the following:

- the date of manufacture,
- the name or trademark of the manufacturer, and
- the type and size designation.

2.2.4. Storage and Shipment. Store precast units on a level surface. Do not place any loads on precast concrete units until design strength is reached. Do not ship units until design strength requirements have been met.

2.2.5. Causes for Rejection. Precast units may be rejected for not meeting any one of the specification requirements. Individual units may also be rejected for fractures or cracks passing through the wall or surface defects indicating honeycombed or open texture surfaces. Remove rejected units from the project, and replace them with acceptable units meeting the requirements of this Item.

2.2.6. Defects and Repairs. Occasional imperfections in manufacture or accidental damage sustained during handling may be repaired. The repaired units will be acceptable if they conform to the requirements of this Item and the repairs are sound, properly finished, and cured in conformance with pertinent specifications.

3. CONSTRUCTION

- 3.1. General. Remove portions of existing structures and drill, dowel, and grout in accordance with Item 420, "Concrete Substructures."
- 3.2. Excavation, Shaping, Bedding, and Backfill. Excavate, shape, bed, and backfill in accordance with Item 400, "Excavation and Backfill for Structures." Take special precautions in placing and compacting the backfill to avoid any movement or damage to the units. Bed precast units on foundations of firm and stable material accurately shaped to conform to the bases of the units.
- 3.3. Placement of Precast Units. Provide adequate means to lift and place the precast units. Fill lifting holes with mortar or concrete and cure. Precast concrete or mortar plugs may be used.
- 3.4. Connections. Make connections to new or existing structures in accordance with the details shown on the plans. Furnish jointing material in accordance with Item 464, "Reinforced Concrete Pipe," or as shown on the plans.

Remove a length of the existing pipe from the headwall to the joint when removing existing headwalls as shown on the plans or as approved. Re-lay the removed pipe if approved, or furnish and lay a length of new pipe.

4. MEASUREMENT

- This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.
- 4.1. Headwalls. Headwalls will be measured by each end of a structure.
 - 4.2. Wingwalls. Wingwalls will be measured by one of the following methods:
 - 4.2.1. Square Foot. Wingwalls will be measured by the square foot of the front surface area of the wall of each type. The area will be measured from the top of the footing or apron to the top of the wall unless otherwise shown on the plans. If there is no footing or apron, then measurement is from the bottom of the wall.
 - 4.2.2. Each. Wingwalls will be measured by each end of a 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 price bid for "Headwalls" of the type and pipe size (diameter or design) specified, "Wingwalls" of the type specified when measurement is by the square foot, or "Wingwalls" of the type and wall height specified when measurement is by each. For payment purposes, the wingwall height will be rounded to the nearest foot. All wingwalls and headwalls of the same type will be paid for equally when skew does not affect the type. This price is full compensation for constructing, furnishing, transporting, and installing the headwalls or wingwalls; connecting to existing structure; breaking back, removing and disposing of portions of the existing structure, and replacing portions of the existing structure as required to make connections; excavation and backfill; and concrete, reinforcing steel, corrugated metal pipe or reinforced concrete pipe, equipment, labor, tools, and incidentals.

Apron concrete or riprap between or around the wingwalls of single- or multiple-barrel box culvert structures will be measured and paid for in accordance with Item 432, "Riprap."

The removal and re-laying of existing pipe or the furnishing of new pipe to replace existing pipe will not be paid for directly but will be considered subsidiary to this Item.

Item 496

Removing Structures



1. DESCRIPTION

Remove and either dispose of or salvage structures.

2. CONSTRUCTION

- 2.1. Demolition Plans. Follow the demolition sequence shown on the plans for bridge structures to be removed, or submit a demolition plan if indicated on the plans. Include in the required demolition plan the type and location of equipment to be used, the method and sequence of removal of the structural elements, and a narrative indicating the stability of the partially demolished structure is maintained throughout the demolition process. Have these plans signed and sealed by a licensed professional engineer when demolished structure intersects active roadways and as otherwise shown on the plans. Submit required demolition plans at least 14 days before starting work unless otherwise directed. Department approval of these plans is not required, but the Department reserves the right to request modifications to the plans when work could affect the safety of the traveling public and when around other transportation facilities to remain in place. Notify the Department 30 days before starting any bridge demolition work to allow for required notifications to other agencies.
- 2.2. Removal.
- 2.2.1. Pipes. Avoid damaging appurtenances determined by the Engineer to be salvageable.
- 2.2.2. Concrete, Brick, or Stone Structures. Portions of structures that will not interfere with the proposed construction may remain in place 2 ft. or more below the permanent ground line. Square off remaining structures and cut reinforcement flush with the surface of the concrete.
- 2.2.3. Steel Structures. Dismantle steel to be retained by the Department or re-erected by cold-cutting fastener heads and punching or drilling the remaining portion of the fastener, air-arc gouging welded connections, and flame-cutting beams along a straight line. The Engineer may approve other methods of cutting. Cut beams at the locations shown on the plans. Match-mark steel to be re-erected with paint in accordance with the erection drawings. Remove steel piles or cut off 2 ft. or more below the permanent ground line.
- 2.2.4. Timber Structures. Remove all fasteners from timber determined by the engineer to be salvageable. Remove timber piles or cut off 2 ft. or more below the permanent ground line.
- 2.3. Salvage. Avoid damage to materials shown on the plans to be salvaged. Deliver materials to be retained by the Department to the location shown on the plans. Block up salvaged steel materials off the ground.
- 2.4. Disposal. Material removed that is not deemed to be salvageable is the property of the Contractor. Dispose of removed material off the right of way in accordance with federal, state, and local regulations.
- 2.5. Backfill. Backfill excavation and voids to the original ground line if resulting from the removal of structures. Place backfill that will support any portion of the roadbed or embankment to the same requirements for placing embankment. Backfill other areas in 10 in. layers, loose measurement, and compact to the density of adjacent undisturbed material.

3. MEASUREMENT

This Item will be measured by each structure or by the foot.

4. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Structures" of the type of structure specified. This price is full compensation for demolition plan preparation, loading, hauling, disposal, stockpiling, removal of appurtenances, excavation and backfill, equipment, labor, tools, and incidentals.

Item 500

Mobilization



1. DESCRIPTION

Establish and remove offices, plants, and facilities. Move personnel, equipment, and supplies to and from the project or the vicinity of the project site to begin work or complete work on Contract Items. Bonds and insurance are required for performing mobilization.

For Contracts with emergency mobilization, provide a person and method of contact available 24 hrs. a day, 7 days a week unless otherwise shown on the plans. The time of notice will be the transmission time of the written notice or notice provided orally by the Department's representative.

2. MEASUREMENT

This Item will be measured by the lump sum or each as the work progresses. Mobilization is calculated on the base bid only and will not be paid for separately on any additive alternate items added to the Contract.

3. PAYMENT

For this Item, the adjusted Contract amount will be calculated as the total Contract amount less the lump sum for mobilization. Except for Contracts with callout or emergency work, mobilization will be paid in partial payments as follows:

- Payment will be made upon presentation of a paid invoice for the payment or performance bonds and required insurance,
- Payment will be made upon verification of documented expenditures for plant and facility setup. The combined amount for all these facilities will be no more than 10% of the mobilization lump sum or 1% of the total Contract amount, whichever is less,
- When 1% of the adjusted Contract amount for construction Items is earned, 50% of the mobilization lump sum bid or 5% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount,
- When 5% of the adjusted Contract amount for construction Items is earned, 75% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under the Item will be deducted from this amount,
- When 10% of the adjusted Contract amount for construction Items is earned, 90% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount,
- Upon final acceptance, 97% of the mobilization lump sum bid will be paid. Previous payments under this Item will be deducted from this amount, and
- Payment for the remainder of the lump sum bid for "Mobilization" will be made after all submittals are received, final quantities have been determined and when any separate vegetative establishment and maintenance, test, and performance periods provided for in the Contract have been successfully completed.

For projects with extended maintenance or performance periods, payment for the remainder of the lump sum bid for "Mobilization" will be made 6 months after final acceptance.

For Contracts with callout or emergency work, "Mobilization," will be paid as follows:

- Payment will be made upon presentation of a paid invoice for the payment of performance bonds and required insurance,
- Mobilization for callout work will be paid for each callout work request, and
- Mobilization for emergency work will be paid for each emergency work request.

Item 502

Barricades, Signs, and Traffic Handling



1. DESCRIPTION

Provide, install, move, replace, maintain, clean, and remove all traffic control devices shown on the plans and as directed.

2. CONSTRUCTION

Comply with the requirements of Article 7.2., "Safety."

Implement the traffic control plan (TCP) shown on the plans.

Install traffic control devices straight and plumb. Make changes to the TCP only as approved. Minor adjustments to meet field conditions are allowed.

Submit Contractor-proposed TCP changes, signed and sealed by a licensed professional engineer, for approval. The Engineer may develop, sign, and seal Contractor-proposed changes. Changes must conform to guidelines established in the TMUTCD using approved products from the Department's Compliant Work Zone Traffic Control Device List.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices. Maintain the devices such that they are properly positioned and spaced, legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The Engineer may authorize or direct in writing the removal or relocation of project limit advance warning signs. When project limit advance warning signs are removed before final acceptance, provide traffic control in accordance with the TMUTCD for minor operations as approved.

Remove all traffic control devices upon completion of the work as shown on the plans or as directed.

3. MEASUREMENT

Barricades, Signs, and Traffic Handling will be measured by the month. Law enforcement personnel with patrol vehicles will be measured by the hour for each person.

4. PAYMENT

- 4.1. Barricades, Signs, and Traffic Handling. Except for Contracts with callout work and work orders, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

When the plans establish pay items for particular work in the TCP, that work will be measured and paid under pertinent Items.

4.1.1. Initiation of Payment. Payment for this Item will begin on the first estimate after barricades, signs, and traffic handling devices have been installed in accordance with the TCP and construction has begun.

4.1.2. Paid Months. Monthly payment will be made each succeeding month for this Item provided the barricades, signs, and traffic handling devices have been installed and maintained in accordance with the TCP until the Contract amount has been paid.

If, within the time frame established by the Engineer, the Contractor fails to provide or properly maintain signs and barricades in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. No payment will be made for the months in question, and the total final payment quantity will be reduced by the number of months the Contractor was in noncompliance.

4.1.3. Maximum Total Payment Before Acceptance. The total payment for this Item will not exceed 10% of the total Contract amount before final acceptance in accordance with Article 5.12., "Final Acceptance." The remaining balance will be paid in accordance with Section 502.4.1.5., "Balance Due."

4.1.4. Total Payment Quantity. The quantity paid under this Item will not exceed the total quantity shown on the plans except as modified by change order and as adjusted by Section 502.4.1.2., "Paid Months." An overrun of the plans quantity for this Item will not be allowed for approving designs; testing; material shortages; closed construction seasons; curing periods; establishment, performance, test, and maintenance periods; failure to complete the work in the number of months allotted; nor delays caused directly or indirectly by requirements of the Contract.

4.1.5. Balance Due. The remaining unpaid months of barricades less non-compliance months will be paid on final acceptance of the project, if all work is complete and accepted in accordance with Article 5.12., "Final Acceptance."

4.1.6. Contracts with Callout Work and Work Orders. The work performed and the materials furnished with this Item and measured as provided under "Measurement," will be considered subsidiary to pertinent Items, except for federally funded Contracts.

4.2. Law Enforcement Personnel. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement," will be paid by Contractor force account for "Law Enforcement Personnel." This price is full compensation for furnishing all labor, materials, supplies, equipment, patrol vehicle, fees, and incidentals necessary to complete the work as directed.

Item 506

Temporary Erosion, Sedimentation, and Environmental Controls



1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) on the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000. Control measures are defined as Best Management Practices used to prevent or reduce the discharge of pollutants. Control measures include, but are not limited to, rock filter dams, temporary pipe slope drains, temporary paved flumes, construction exits, earthwork for erosion control, pipe, construction perimeter fence, sandbags, temporary sediment control fence, biodegradable erosion control logs, vertical tracking, temporary or permanent seeding, and other measures. Erosion and sediment control devices must be selected from the *Erosion Control Approved Products* or *Sediment Control Approved Products* lists. Perform work in a manner to prevent degradation of receiving waters, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures is performed in accordance with the manufacturer's or designer's specifications.

Provide the Contractor Certification of Compliance before performing SWP3 or soil disturbing activities. By signing the Contractor Certification of Compliance, the Contractor certifies they have read and understand the requirements applicable to this project pertaining to the SWP3, the plans, and the TPDES General Permit TXR150000. The Contractor is responsible for any penalties associated with non-performance of installation or maintenance activities required for compliance. Ensure the most current version of the certificate is executed for this project.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost,"
- Item 432, "Riprap," and
- Item 556, "Pipe Underdrains."

2.1. Rock Filter Dams.

2.1.1. Aggregate. Furnish aggregate with approved hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. Wire. Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. Sandbag Material. Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

- 2.2. Temporary Pipe Slope Drains. Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.
- Furnish concrete in accordance with Item 432, "Riprap."
- 2.3. Temporary Paved Flumes. Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.
- 2.4. Construction Exits. Provide materials that meet the details shown on the plans and this Section.
- 2.4.1. Rock Construction Exit. Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.
- 2.4.2. Timber Construction Exit. Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.
- 2.4.3. Foundation Course. Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.
- 2.5. Embankment for Erosion Control. Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.
- 2.6. Pipe. Provide pipe outlet material in accordance with Item 556, "Pipe Underdrains," and details shown on the plans.
- 2.7. Construction Perimeter Fence.
- 2.7.1. Posts. Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.
- 2.7.2. Fence. Provide orange construction fencing as approved.
- 2.7.3. Fence Wire. Provide 14 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.
- 2.7.4. Flagging. Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.
- 2.7.5. Staples. Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.
- 2.7.6. Used Materials. Previously used materials meeting the applicable requirements may be used if approved.
- 2.8. Sandbags. Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.
- Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve Size	Retained (% by Weight)
#4	Maximum 3%
#100	Minimum 80%
#200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size must not exceed 3/8 in.

- 2.9. Temporary Sediment Control Fence. Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.
- 2.9.1. Fabric. Provide fabric materials in accordance with [DMS-6230](#), "Temporary Sediment Control Fence Fabric."
- 2.9.2. Posts. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.
- 2.9.3. Net Reinforcement. Provide net reinforcement of at least 12.5 gauge (SWG) galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.
- 2.9.4. Staples. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.
- 2.9.5. Used Materials. Use recycled material meeting the applicable requirements if approved.
- 2.10. Biodegradable Erosion Control Logs.
- 2.10.1. Core Material. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."
- 2.10.2. Containment Mesh. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.
- 2.10.3. Size. Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. QUALIFICATIONS, TRAINING, AND EMPLOYEE REQUIREMENTS

- 3.1. Contractor Responsible Person Environmental (CRPE) Qualifications and Responsibilities. Provide and designate in writing at the preconstruction conference a CRPE and alternate CRPE who have overall responsibility for the storm water management program. The CRPE will implement storm water and erosion control practices; will oversee and observe storm water control measure monitoring and management; will monitor the project site daily and produce daily monitoring reports as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES General Permit TXR150000. During time suspensions when work is not occurring or on contract non-work days, daily inspections are not required unless a rain event has occurred. The CRPE will provide recommendations on

how to improve the effectiveness of control measures. Attend the Department's preconstruction conference for the project. Ensure training is completed as identified in Section 506.3.3., "Training," by all applicable personnel before employees work on the project. Document and submit a list, signed by the CRPE, of all applicable Contractor and subcontractor employees who have completed the training. Include the employee's name, the training course name, and date the employee completed the training. Provide the most current list at the preconstruction conference or before SWP3 or soil disturbing activities. Update the list as needed and provide the updated list when updated.

- 3.2. Contractor Superintendent Qualifications and Responsibilities. Provide a superintendent that is competent, has experience with and knowledge of storm water management, and is knowledgeable of the requirements and the conditions of the TPDES General Permit TXR150000. The superintendent will manage and oversee the day to day operations and activities at the project site; work with the CRPE to provide effective storm water management at the project site; represent and act on behalf of the Contractor; and attend the Department's preconstruction conference for the project.
- 3.3. Training. All Contractor and subcontractor employees involved in soil disturbing activities, small or large structures, storm water control measures, and seeding activities must complete training as prescribed by the Department.

4. CONSTRUCTION

- 4.1. Contractor Responsibilities. Implement the SWP3 for the project site in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed. Coordinate storm water management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Department's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.
- 4.2. Implementation. The CRPE, or alternate CRPE, must be accessible by phone and able to respond to project-related storm water management or other environmental emergencies 24 hr. per day.
 - 4.2.1. Commencement. Implement the SWP3 as shown and as directed. Contractor-proposed recommendations for changes will be allowed as approved. Conform to the established guidelines in the TPDES General Permit TXR150000 to make changes. Do not implement changes until approval has been received and changes have been incorporated into the plans. Minor adjustments to meet field conditions are allowed and will be recorded in the SWP3.
 - 4.2.2. Phasing. Implement control measures before the commencement of activities that result in soil disturbance. Phase and minimize the soil disturbance to the areas shown on the plans. Coordinate temporary control measures with permanent control measures and all other work activities on the project to assure economical, effective, safe, and continuous water pollution prevention. Provide control measures that are appropriate to the construction means, methods, and sequencing allowed by the Contract. Exercise precaution throughout the life of the project to prevent pollution of ground waters and surface waters. Schedule and perform clearing and grubbing operations so that stabilization measures will follow immediately thereafter if project conditions permit. Bring all grading sections to final grade as soon as possible and implement temporary and permanent control measures at the earliest time possible. Implement temporary control measures when required by the TPDES General Permit TXR150000 or otherwise necessitated by project conditions.

Do not prolong final grading and shaping. Preserve vegetation where possible throughout the project, and minimize clearing, grubbing, and excavation within stream banks, bed, and approach sections.
- 4.3. General.
 - 4.3.1. Temporary Alterations or Control Measure Removal. Altering or removal of control measures is allowed when control measures are restored within the same working day.

- 4.3.2. Stabilization. Initiate stabilization for disturbed areas no more than 14 days after the construction activities in that portion of the site have temporarily or permanently ceased. Establish a uniform vegetative cover or use another stabilization practice in accordance with the TPDES General Permit TXR150000.
- 4.3.3. Finished Work. Remove and dispose of all temporary control measures upon acceptance of vegetative cover or other stabilization practice unless otherwise directed. Complete soil disturbing activities and establish a uniform perennial vegetative cover. A project will not be considered for acceptance until a vegetative cover of 70% density of existing adjacent undisturbed areas is obtained or equivalent permanent stabilization is obtained in accordance with the TPDES General Permit TXR150000. An exception will be allowed in arid areas as defined in the TPDES General Permit TXR150000.
- 4.3.4. Restricted Activities and Required Precautions. Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Use appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e., dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.
- 4.4. Installation, Maintenance, and Removal Work. Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as approved.

The Department will inspect and document the condition of the control measures at the frequency shown on the plans and will provide the Construction SWP3 Field Inspection and Maintenance Reports to the Contractor. Make corrections as soon as possible before the next anticipated rain event or within 7 calendar days after being able to enter the worksite for each control measure. The only acceptable reason for not accomplishing the corrections with the time frame specified is when site conditions are "Too Wet to Work." Take immediate action if a correction is deemed critical as directed. When corrections are not made within the established time frame, all work will cease on the project and time charges will continue while the control measures are brought into compliance. Commence work once the Engineer reviews and documents the project is in compliance. Commencing work does not release the Contractor of the liability for noncompliance of the SWP3, plans, or TPDES General Permit TXR150000.

The Engineer may limit the disturbed area if the Contractor cannot control soil erosion and sedimentation resulting from the Contractor's operations. Implement additional controls as directed.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

- 4.4.1. Rock Filter Dams for Erosion Control. Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

- 4.4.1.1. Type 1 (Non-Reinforced).
- Height. At least 18 in. measured vertically from existing ground to top of filter dam.
 - Top Width. At least 2 ft.
 - Slopes. No steeper than 2:1.
- 4.4.1.2. Type 2 (Reinforced).
- Height. At least 18 in. measured vertically from existing ground to top of filter dam.
 - Top Width. At least 2 ft.
 - Slopes. No steeper than 2:1.
- 4.4.1.3. Type 3 (Reinforced).
- Height. At least 36 in. measured vertically from existing ground to top of filter dam.
 - Top Width. At least 2 ft.
 - Slopes. No steeper than 2:1.
- 4.4.1.4. Type 4 (Sack Gabions). Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.
- Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.
- Lift and place without damaging the gabion. Shape sack gabions to existing contours.
- 4.4.1.5. Type 5. Provide rock filter dams as shown on the plans.
- 4.4.2. Temporary Pipe Slope Drains. Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, "Riprap," when designated on the plans.
- 4.4.3. Temporary Paved Flumes. Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.
- 4.4.4. Construction Exits. Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.
- 4.4.4.1. Long-Term. Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.
- 4.4.4.1.1. Type 1. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.
- 4.4.4.1.2. Type 2. Construct using railroad ties and timbers as shown on the plans or as directed.

- 4.4.4.2. Short-Term.
- 4.4.4.2.1. Type 3. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.
- 4.4.4.2.2. Type 4. Construct as shown on the plans or as directed.
- 4.4.5. Earthwork for Erosion Control. Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.
- 4.4.5.1. Excavation and Embankment for Erosion Control Features. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.
- 4.4.5.2. Excavation of Sediment and Debris. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.
- 4.4.6. Construction Perimeter Fence. Construct, align, and locate fencing as shown on the plans or as directed.
- 4.4.6.1. Installation of Posts. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.
- 4.4.6.2. Wire Attachment. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.
- 4.4.6.3. Flag Attachment. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.
- 4.4.7. Sandbags for Erosion Control. Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.
- 4.4.8. Temporary Sediment-Control Fence. Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.
- 4.4.8.1. Installation of Posts. Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.
- 4.4.8.2. Fabric Anchoring. Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.
- 4.4.8.3. Fabric and Net Reinforcement Attachment. Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn

vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

- 4.4.8.4. Fabric and Net Splices. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

- 4.4.9. Biodegradable Erosion Control Logs. Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown on the plans, or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and as approved, such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

- 4.4.10. Vertical Tracking. Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

- 4.5. Monitoring and Documentation. Monitor the control measures on a daily basis as long as there are BMPs in place and/or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES General Permit TXR150000. During time suspensions when work is not occurring or contract non-work days, daily inspections are not required unless a rain event has occurred. Monitoring will consist of, but is not limited to, observing, inspecting, and documenting site locations with control measures and discharge points to provide maintenance and inspection of controls as described in the SWP3. Keep written records of daily monitoring. Document in the daily monitoring report the control measure condition, the date of inspection, required corrective actions, responsible person for making the corrections, and the date corrective actions were completed. Maintain records of all monitoring reports at the project site or at an approved place. Provide copies within 7 days. Together, the CRPE and an Engineer's representative will complete the Construction Stage Gate Checklist on a periodic basis as directed.

5. MEASUREMENT

- 5.1. Rock Filter Dams. Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

- 5.1.1. Linear Measurement. When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

- 5.1.2. Volume Measurement. When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

- 5.1.2.1. Installation. Measurement will be made in final position.

- 5.1.2.2. Removal. Measurement will be made at the point of removal.

- 5.2. Temporary Pipe Slope Drains. Temporary pipe slope drains will be measured by the foot.
- 5.3. Temporary Paved Flumes. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.
- 5.4. Construction Exits. Construction exits will be measured by the square yard of surface area.
- 5.5. Earthwork for Erosion and Sediment Control.
 - 5.5.1. Equipment and Labor Measurement. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.
 - 5.5.2. Volume Measurement.
 - 5.5.2.1. In Place.
 - 5.5.2.1.1. Excavation. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.
 - 5.5.2.1.2. Embankment. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:
 - the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
 - the lines, grades and slopes of the accepted embankment for the feature.
 - 5.5.2.2. In Vehicles. Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.
- 5.6. Construction Perimeter Fence. Construction perimeter fence will be measured by the foot.
- 5.7. Sandbags for Erosion Control. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.
- 5.8. Temporary Sediment-Control Fence. Installation or removal of temporary sediment-control fence will be measured by the foot.
- 5.9. Biodegradable Erosion Control Logs. Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.
- 5.10. Vertical Tracking. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this item.

6. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;

- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items except vertical tacking which is subsidiary.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

6.1. Rock Filter Dams. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

6.1.1. Installation. Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.1.2. Removal. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Engineer directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.2. Temporary Pipe Slope Drains. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

6.3. Temporary Paved Flumes. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Engineer directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

- 6.4. Construction Exits. Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Department will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Engineer directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

- 6.5. Earthwork for Erosion and Sediment Control.

- 6.5.1. Initial Earthwork for Erosion and Sediment Control. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly but will be subsidiary to this Item.

- 6.5.2. Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Engineer.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly but will be subsidiary to this Item.

- 6.6. Construction Perimeter Fence. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

- 6.7. Sandbags for Erosion Control. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.
- Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.
- 6.8. Temporary Sediment-Control Fence. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:
- 6.8.1. Installation. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.
- 6.8.2. Removal. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 6.9. Biodegradable Erosion Control Logs. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:
- 6.9.1. Installation. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.
- 6.9.2. Removal. Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 6.10. Vertical Tracking. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

Item 550

Chain Link Fence



1. DESCRIPTION

Furnish, install, remove, repair, or replace chain link fence and gates.

2. MATERIALS

Furnish certification from the chain link fence materials manufacturer stating that all fencing materials comply with the requirements of this Item before installation of the fence. Use only new materials.

2.1. General. Furnish materials in accordance with the following:

- Item 421, "Hydraulic Cement Concrete," Class B
- Item 445, "Galvanizing"

2.2. Wire Fabric. Provide wire fabric with:

- 9 gauge (0.148 in. diameter) steel wire with a minimum breaking strength of 1,290 lb. meeting ASTM A392 Class I or ASTM A491;
- mesh size of 2 in. $\pm 1/8$ in. between parallel wires with at least 7 meshes in a vertical dimension of 23 in. along the diagonals of the openings; and
- knuckled selvages at the top and bottom edge of the fabric, unless otherwise shown on the plans.

2.3. Posts. Provide posts of the size and weight shown on the plans. Do not provide rerolled or open-seam posts. Use material for all posts meeting ASTM F1043 Group 1A Regular Grade or Group 1C High Strength.

2.4. Post Caps. Provide malleable iron post caps designed to exclude all moisture. Furnish barbed wire support arms integral with the post caps if barbed wire is shown on the plans. Furnish post caps with an opening for the top rail if top rail is shown on the plans. Post caps must have a 2-in. skirt.

2.5. Gates. Provide gates fabricated from round sections of pipe of the size and weight shown on the plans. Use material for all gate pipes meeting ASTM F1043 Group 1A Regular Grade or Group 1C High Strength. For each gate, include:

- corner and tee fittings of malleable iron or pressed steel with means for attaching diagonal bracing members;
- hinges of malleable iron allowing a full 180° swing, easily operated by one person;
- ball-and-socket-type bottom hinges that do not twist or turn from the action of the gate and prevent the closed gate from being lifted off the hinges;
- a positive stop that prevents any portion of the gate from swinging over an adjacent traffic lane;
- malleable iron pulley systems for roll type gate (only when required);
- diagonal braces consisting of 3/8-in. diameter cable with turnbuckles, 2 to each gate frame, and, for vehicle gates, a vertical pipe brace of the size and weight shown on the plans at the center of each gate leaf;
- latches of malleable iron or steel for single gates with a single-fork latch and padlock eye that will keep the gate closed;
- 2 fork latches mounted on a center plunger rod with a padlock eye for double-leaf gates;
- holdbacks for each leaf of vehicular gates, with a semi-automatic holdback catch anchored at least 12 in. into a 12-in. diameter by 24-in. deep concrete footing; and

- a malleable iron center rest, designed to receive the plunger rod anchored as shown on the plans for all double-leaf gates.
- 2.6. Top Rail. Use material meeting ASTM F1043 Group 1A or 1C for all top rail pipes. Provide 1.660 in. OD top rail manufactured from Group 1A standard weight (Schedule 40) steel pipe weighing 2.27 lb. per foot or from Group 1C high-strength pipe weighing 1.84 lb. per foot when shown on the plans. Provide pipe in sections at least 18 ft. long joined with outside steel sleeve couplings at least 6 in. long with a minimum wall thickness of 0.70 in. Use couplings designed to allow for expansion of the top rail.
- 2.7. Tension Wire. Use 7 gauge (0.177-in.) carbon steel wire with a minimum breaking strength of 1,950 lb. for the bottom edge of all fence fabric, and for the top edge of fence fabric when a top rail is not specified.
- 2.8. Truss Bracing. Provide truss bracing as shown on the plans.
- 2.9. Cables. Provide 7-wire strand cables manufactured of galvanized annealed steel at least 3/8 in. in diameter.
- 2.10. Barbed Wire. Provide 3 strands of twisted 12.5 gauge barbed wire with 2-point, 14 gauge barbs spaced approximately 5 in. apart conforming to ASTM A121 or ASTM A585 when specified on the plans.
- 2.11. Barbed Wire Support Arms. Provide support arms at an angle of 45° from vertical, with clips for attaching 3 strands of barbed wire to each support arm and sufficient strength to support a 200-lb. weight applied at the outer strand when barbed wire is specified on the plans.
- 2.12. Stretcher Bars. Provide stretcher bars made of flat steel at least 3/16 × 3/4 in. and not more than 2 in. shorter than the fabric height. Provide one stretcher bar for each gate and end post and 2 stretcher bars for each corner and pull post.
- 2.13. Grounds. Provide copper-clad steel rods 8 ft. long with a minimum diameter of 5/8 in., or other UL-listed ground rods.
- 2.14. Miscellaneous Fittings and Fasteners. Furnish enough fittings and fasteners to erect all fencing materials in a proper manner. Furnish fittings for posts from pressed or rolled steel, forged steel, malleable iron or wrought iron of good commercial quality spaced as shown on the plans.
- 2.15. Coatings. Hot-dip galvanize all materials unless specified otherwise in this Item or on the plans. Fabric, tension wire, and barbed wire may be aluminum-coated or alloy-coated if approved. Additionally coat all material except bolts, nuts, washers, and pipe material with thermally fused polyvinyl chloride (PVC) in accordance with ASTM F668, Class 2b, meeting the specified color when shown on the plans.
 - 2.15.1. Fabric.
 - 2.15.1.1. Galvanizing. Hot-dip galvanize in accordance with ASTM A392, Class I.
 - 2.15.1.2. Aluminum Coating. Aluminum-coat in accordance with ASTM A491.
 - 2.15.1.3. Alloy Coating. Coat with zinc-5% aluminum-mischmetal alloy (Zn-5A1-MM) in accordance with ASTM F1345, Class I.
 - 2.15.2. Posts, Braces, and Gates.
 - 2.15.2.1. Standard Weight (Schedule 40) Pipe. Hot-dip galvanize inside and outside according to ASTM F1043 (1.8 oz./sq. ft. galvanized zinc weight).
 - 2.15.2.2. High Strength Pipe. Hot-dip galvanize before or after forming pipe according to ASTM F1043 Group 1C and as follows:
 - Outside—minimum 0.9 oz./sq. ft. galvanized zinc weight with a verifiable polymer overcoat.

- Inside—minimum 0.9 oz./sq. ft. galvanized zinc weight before forming, or minimum 0.3 mils zinc-based coating after forming containing a minimum 90% zinc dust, by weight.

- 2.15.2.3. Optional Additional Coating. Additionally coat all pipe material with 10 mils minimum thermally fused PVC according to ASTM F1043, meeting the specified color when shown on the plans.
- 2.15.3. Fittings, Bolts, and Other Miscellaneous Hardware. Galvanize all fittings, bolts, and miscellaneous hardware in conformance with Item 445, "Galvanizing."
- 2.15.4. Tension Wire. Zinc-coat tension wire with a minimum coating of 0.80 oz./sq. ft. or aluminum-coat with a minimum coating of 0.30 oz./sq. ft.
- 2.15.5. Barbed Wire. Zinc-coat barbed wire in accordance with ASTM A121 (0.80 oz./sq. ft.) or aluminum-coat in accordance with ASTM A585 (0.30 oz./sq. ft.).
- 2.15.6. Pull Cable. Zinc-coat pull cable with a minimum coating of 0.80 oz./sq. ft. of individual-wire surface when tested in conformance with ASTM A116.

3. CONSTRUCTION

Erect the chain link fence to the lines and grades established on the plans. Overall height of the fence when erected is the height above the grade shown.

Repair or replace damaged fence or gates. Remove and replace the post and foundation if posts cannot be repaired by straightening. Return all salvageable material to the location shown on the plans when a fence installation is to be removed in its entirety and not replaced. Backfill all postholes with suitable material. Return the salvaged fence fabric in secured rolls not more than 50 ft. long. Dispose of unsalvageable material.

- 3.1. Clearing and Grading. Clear all brush, rocks, and debris necessary for the installation of this fencing.

Stake the locations for corner posts and terminal posts unless otherwise shown on the plans. Follow the finished ground elevations for fencing panels between corner and terminal posts. Level off minor irregularities in the path of the fencing.

- 3.2. Erection of Posts. Install posts as shown on the plans. Plumb and permanently position posts with anchorages firmly set before fabric is placed. Brace corner and pull posts as shown on the plans.

- 3.2.1. Post Spacing. Space posts as shown in Table 1.

Table 1
Post Spacing and Placement

Post Type	Required Spacing or Placement
Line posts	no more than 10 ft. apart
Pull posts	no more than 500 ft. apart and at each change in direction exceeding 20° vertically
Corner posts	at each horizontal angle point

Install cables on all terminal posts and extend to adjacent posts. Install cables on each side of corner and pull posts with a 3/8-in. drop-forged eye-and-eye or eye-and-clevis turnbuckle unless otherwise shown on the plans.

- 3.2.2. Postholes. Drill holes for concrete footings for all posts to provide footings of the dimensions shown on the plans.

Penetrate solid rock by at least 12 in. (18 in. for end, corner, gate, and pull posts) or to plan depth where the rock is encountered before reaching plan depth. Drill holes in the solid rock with a diameter at least 1 in. greater than the outside diameter of the post.

Fill the hole in the solid rock with grout consisting of 1 part hydraulic cement and 3 parts clean, well-graded sand after the posts are set and plumbed. If desired, other grouting materials may be used only if approved. Thoroughly work the grout into the hole, leaving no voids. Construct concrete footings from the solid rock to the top of the ground.

- 3.2.3. Gate Posts. Align the tops of all gate frames with the fencing top tension wire or top rail. Provide vehicular gates that are greater in overall height than the adjacent fencing by the height necessary to extend to within 2 in. of the pavement between the curbs if curbs are shown on the plans.

- 3.2.4. Concrete Footings. Center posts in their footings. Place concrete and compact by tamping or other approved methods. Machine mix all batches of concrete over 1/2 cu. yd. Hand mixing concrete is allowed on batches under 1/2 cu. yd.

Use forms for footings where the ground cannot be satisfactorily excavated to neat lines. Crown the concrete or grout (for solid rock) to carry water from the post. Keep the forms in place for at least 24 hr. Backfill the footing with moistened material as soon as each form is removed, and thoroughly tamp. Cover concrete with at least 4 in. of loose moist material, free of clods and gravel, immediately after placing concrete. No other curing is required.

Spread all excess excavated and loose material used for curing neatly and uniformly. Remove excess concrete and other construction debris from the site.

- 3.3. Erection of Fabric. Place the fabric with the cables drawn taut with the turnbuckles after all posts have been permanently positioned and anchorages firmly set. Secure one end and apply enough tension to the other end to remove all slack before making attachments. Cut the fabric and independently attach each span at all corner posts and pull posts unless otherwise shown on the plans.

Follow the finished contour of the site with the bottom edge of fabric located approximately 2 in. above the grade. Grade uneven areas so the maximum distance between the bottom of fabric and ground is 6 in. or less.

Fasten fabric at 12 in. intervals to the top and bottom tension wires between posts. Fasten the fabric in the same manner when top rail is shown on the plans. Fasten the fabric on gate frames to the top and bottom of the frame at 12 in. intervals. Use steel wire fabric ties of 9 gauge steel or larger. Fasten fabric to terminal posts by steel stretcher bars and stretcher bar bands fitted with carriage bolts and nuts of the size and spacing shown on the plans. Use stretcher bars to fasten end posts, pull posts, corner posts, and gateposts with stretcher bar bands at intervals of no more than 15 in. Attach stretcher bars to terminal posts with 1 × 1/8 in. flat steel bands with 3/8-in. carriage bolts at intervals up to 15 in.

- 3.4. Electrical Grounds. Provide at least one electrical ground for each 1,000 ft. of fence, located near the center of the run. Provide additional grounds directly under the point where power lines pass over the fence.

Vertically drive or drill in the grounding rod until the top of the rod is approximately 6 in. below the top of the ground. Connect a No. 6 solid copper conductor to the rod and to the fence by a UL-listed method so that each element of the fence is grounded.

- 3.5. Repair of Coatings. Repair damaged zinc coating in accordance with Section 445.3.5., "Repairs."

4. MEASUREMENT

Chain link fence will be measured by the foot of fence installed, repaired, replaced, or removed, measured at the bottom of the fabric along the centerline of the fence from center to center of posts, excluding gates.

Gates will be measured as each gate installed, repaired, replaced, or removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Chain Link Fence (Install)" or "Chain Link Fence (Repair)" of the height specified or "Chain Link Fence (Remove)" and "Gate (Install)" or "Gate (Repair)" of the type, height, and width of opening specified or "Gate (Remove)." Clearing and grading for fencing and gates will not be paid for directly but is subsidiary to this Item.

- 5.1. Chain Link Fence (Install). This price is full compensation for furnishing and installing fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus material; and equipment, labor, tools, and incidentals.
- 5.2. Chain Link Fence (Repair). This price is full compensation for furnishing materials; repairing or replacing fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus or damaged material; and equipment, labor, tools, and incidentals.
- 5.3. Chain Link Fence (Remove). This price is full compensation for removing all fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus material; and equipment, labor, tools, and incidentals.
- 5.4. Gate (Install). This price is full compensation for installing gate and for providing materials, center anchorages, equipment, labor, tools, and incidentals.
- 5.5. Gate (Repair). This price is full compensation for repairing or replacing gate and for furnishing materials; removing and disposing of damaged materials; and equipment, labor, tools, and incidentals.
- 5.6. Gate (Remove). This price is full compensation for removing gate and for materials, equipment, labor, tools, and incidentals.

Special Specification 4026

Thermoplastic Pipe



6. DESCRIPTION

Furnish and install thermoplastic pipe for constructing thermoplastic pipe culverts or thermoplastic storm sewer mains, laterals, stubs, and inlets. Provide pipes of the sizes, types, design, and dimensions shown on the plans including the connections and joints to new or existing pipes, sewer, manholes, inlets, headwalls, and other appurtenances as required to complete the work.

7. MATERIALS

Furnish materials in accordance with the following:

- Item 400, "Excavation and Backfill for Structures,"
- Item 401, "Flowable Backfill," and
- Item 467, "Safety End Treatment."

Unless otherwise specified on the plans or in this Item, provide thermoplastic pipe and joint fittings that conform to the following:

7.1. High Density Polyethylene (HDPE) Pipe.

7.1.1. General. Provide high density polyethylene pipe and fittings meeting the requirements in AASHTO M 294.

7.1.2. Raw Materials. Provide HDPE pipes and fittings manufactured from virgin polyethylene (PE) compounds, conforming to the requirements of cell class 335400C as defined and described in ASTM D 3350, except that the maximum allowable carbon black content is 5%. Use PE compound meeting the environmental stress crack resistance according to the SP-NCTL test set forth in AASHTO M 294.

7.1.3. Designation of Type. For HDPE pipes used in gravity flow drainage applications, use Type S (outer corrugated wall with smooth inner liner) or Type D (inner and outer smooth walls braced circumferentially or spirally with projections or ribs).

7.1.4. Section Properties. The minimum wall thickness of the inner walls of Type S pipe and inner the outer walls of Type D pipe is specified in Section 7.2.2 of AASHTO M 294. The pipe stiffness at 5% deflection, when determined in accordance with ASTM D 2412, is specified in Section 7.4 of AASHTO M 294.

7.2. Polyvinyl Chloride (PVC) Pipe.

7.2.1. General. Provide polyvinyl chloride pipes and fittings meeting the requirements of ASTM F 949.

7.2.2. Raw Materials. Provide PVC pipes and fittings manufactured from PVC compounds which conform to the requirements of cell class 12454B or 12454C as defined and described in ASTM D 1784.

7.2.3. Section Properties. The minimum wall thickness is specified in ASTM F 949, Table 1. The pipe stiffness at 5% deflection, when determined in accordance with ASTM D 2412, is specified in ASTM D 2412, Table 1.

Ensure the manufacturer performs the appropriate test procedures on representative samples of each type of pipe furnished, and verifies that the pipe complies with the specifications. Submit a certificate of compliance

to the Engineer for review and approval. Provide a certificate including the following information: manufacturing plant, date of manufacture, pipe unit mass, material distribution, pipe dimensions, water inlet area, pipe stiffness, pipe flattening, brittleness, ASTM resin cell classification, and workmanship.

- 7.3. Inspection. The quality of materials, the process of manufacture, and the finished pipe will be subject to inspection and approval by the Engineer at the manufacturing plant. In addition, the finished pipe will be subject to further random inspection by the Engineer at the project site before and during installation.
- 7.4. Marking. Furnish pipe clearly marked at maximum 12 ft. intervals and clearly mark fittings and couplings as follows:
- manufacturer's name or trade mark,
 - nominal size,
 - specification designation (e.g. AASHTO M 294 or ASTM F 949),
 - plant designation code, and
 - date of manufacture.

- 7.5. Joints. Install the joints so that the connection of the pipe sections forms a continuous line free from irregularities in the flow line.

Suitable joints are the following:

- Integral Bell and Spigot. Ensure the bell overlaps a minimum of 2 corrugations of the spigot end when fully engaged. Ensure the spigot end has an O-ring gasket that meets ASTM F 477.
- Exterior Bell and Spigot. Fully weld the bell to the exterior of the pipe and overlap the spigot end so that the flow lines and ends match when fully engaged. Provide the spigot end with an O-ring gasket that meets ASTM F 477.

Joint type definitions are the following:

- Soiltight Joints. Joints meeting the soiltightness definition in accordance with AASHTO *Standard Specifications for Highway Bridges*, Section 26.4.2.4.
- Watertight Joints. Joints meeting the requirements of ASTM 3212.

If no joint type is specified, provide a watertight joint.

8. CONSTRUCTION

Construct the pipe at locations shown on the plans or as directed. Only trench installation of thermoplastic pipe will be permitted.

- 8.1. Excavation. Excavate in accordance with Item 400, "Excavation and Backfill for Structures."

Provide enough trench width for the pipe installation and to ensure enough working room to properly and safely place and compact materials placed under haunches of the pipe and other embedment materials. Provide a space between the pipe and trench wall that is greater than that of the compaction equipment used in the pipe zone.

When using Type I backfill, the minimum allowable trench width is the pipe outside diameter plus 12 in.

When using Type II or Type III backfill, the minimum allowable trench width is specified in Table 1.

Table 1
Minimum Trench Width

Nominal Pipe Diameter (in.)	Minimum Trench Width (in.)
18	44
24	54
30	66
36	78
42	84
48	90

- 8.2. Installing Pipe in Embankment. If any portion of the pipe projects above the existing ground level, construct an embankment as shown on the plans or as directed, for a minimum distance outside each side of the pipe location of 5 times the diameter and to a minimum elevation of 2 ft. above the top of the pipe. Next, excavate the trench to a width as specified in Section 3.1. In areas with a high water table, install the thermoplastic pipe in accordance with the manufacturer's recommendations to prevent pipe floatation.
- 8.3. Shaping and Bedding. Bed the pipe in a foundation of compacted cohesionless material, such as sand, crushed stone, or pea gravel, with a maximum allowable size of 3/8 in. Extend this material a minimum of 6 in. below the outermost corrugations or ribs, and carefully and accurately shape it to fit the lowest part of the pipe exterior for a minimum of 10% of the overall height. When requested by the Engineer, furnish a template for each size and shape of pipe to be placed for use in checking the shaping of the bedding. Provide a template consisting of a thin plate or board cut to match the lower half of the cross section of the pipe.
- 8.4. Handling and Storing Pipe. Store pipe above ground on adequate blocking. Always keep pipe clean and fully drained during storage. Store the PVC pipe and fittings out of direct sunlight. Handle and store thermoplastic pipe in accordance with the pipe manufacturer's instructions. Provide proper facilities for hoisting and lowering the pipe into the trench without damaging the pipe or disturbing the bedding or the walls of the trench.
- 8.5. Laying Pipe. Unless otherwise authorized, start laying pipe on the bedding at the outlet end with the separate sections firmly joined together. Hoist and lower sections of pipe into the trench without damaging the pipe or disturbing the bedding or the sides of the trench. Remove and re-lay any pipe that is not in alignment or that shows excessive settlement after laying, at no expense to the Department.

Lay multiple installation of thermoplastic pipe with the centerlines of the individual barrels parallel. Unless otherwise shown on the plans, maintain the clear distances between outer surfaces of adjacent pipes shown in Table 2.

Table 2
Minimum Clear Distance Between Pipes

Nominal Pipe Diameter (in.)	Min. Clear Distance Between Pipes (in.)
18	14
24	17
30	20
36	23
42	26
48	29

- 8.6. Reusing Existing Appurtenances. When existing appurtenances are specified on the plans for reuse, sever the portion to be reused from the existing culvert and move it to the new position previously prepared, by approved methods.

Provide connections conforming to the requirements for joining sections of pipes as indicated in this specification or as shown on the plans. Restore any headwalls and any aprons or pipes attached to the headwall that are damaged during moving operations, to their original condition, at no expense to the Department. The Contractor has the option to remove and dispose of the existing headwalls and aprons and construct new headwalls at no expense to the Department, in accordance with the pertinent specifications and design indicated on the plans or as furnished by the Engineer.

- 8.7. Sewer Connections and Stub Ends. Make connections of pipe sewer to existing sewers or sewer appurtenances as shown on the plans or as directed. Mortar or concrete the bottom of the existing structures, if necessary, to eliminate any drainage pockets created by the new connection. Where the sewer is connected into existing structures which are to remain in service, restore any damage to the existing structure resulting from making the connection to the satisfaction of the Engineer. Seal stub ends, for connections to future work not shown on the plans, by installing watertight plugs into the free end of the pipe. Include the cost for the above in cost of the pipe.
- 8.8. Backfilling. Backfill from the pipe bedding up to 1 ft. above the top of the pipe to provide necessary structural support to the pipe and control pipe deflection. Take special precautions when placing and compacting the backfill material. Place special emphasis obtaining uniform backfill material and uniform compacted density throughout the length of the pipe, to avoid unequal pressure. Use extreme care to ensure proper backfill under the pipe, in the haunch zone.

Provide backfill material meeting the following specifications:

- Type I – Provide backfill consisting of flowable fill in accordance with Item 401, “Flowable Backfill.” Place the flowable backfill across the entire width of the trench and maintain a minimum depth of 12 in. above the pipe. Wait a minimum of 24 hr. before backfilling the remaining portion of the trench with other backfill material in accordance with Item 400, “Excavation and Backfill for Structures.”
- Type II – Provide backfill consisting of cement stabilized backfill in accordance with Section 400.3.3.4, “Cement Stabilized Backfill.” Place and compact cement stabilized backfill to completely fill any voids.
- Type III – Provide backfill consisting of hard, durable, clean granular material that is free of organic matter, clay lumps, and other deleterious matter. Provide backfill meeting the gradation requirements shown in Table 3. Place the backfill material along both sides of the completed structure to a depth of 12 in. above the pipe. Place the backfill in uniform layers a minimum 6 in. deep (loose measurement), wet if required, and thoroughly compact it between adjacent structures and between the structure and the sides of the trench. Until a minimum cover of 12 in. is obtained, only hand-operated tamping equipment will be allowed within vertical planes 2 ft. beyond the horizontal projection of the outside surfaces of the structure. If using Type III backfill, place filter fabric between the native soil and the backfill. Use filter fabric conforming to the requirements of DMS-6200, “Filter Fabric,” Type 1.

Table 3
Gradation Requirements for Type III Backfill Material

Sieve Size	Percent Retained (Cumulative)
1 in.	0-5
7/8 in.	0-35
1/2 in.	0-75
3/8 in.	0-95
No. 4	35-100
No. 10	50-100
No. 200	90-100

- 8.9. Protecting the Pipe. Unless otherwise shown on the plans or permitted in writing, do not use heavy earth-moving equipment over the structure until a minimum of 4 ft. of permanent or temporary compacted fill is placed over the top of the structure.

Before adding each new layer of loose backfill material, until a minimum of 12 in. of cover is obtained, an inspection will be made of the inside periphery of the structure for local or unequal deformation caused by improper construction methods. Evidence of such will be reason for corrective measures as may be directed.

Remove and replace pipe damaged by the Contractor at no expense to the Department

9. MEASUREMENT

This Item will be measured by the foot. Measurement will be made between the ends of the pipe barrel along the flow line, not including safety end treatments. Safety end treatments will be measured in accordance with Item 467, "Safety End Treatment." Measurement of spurs, branches, or connections to existing pipe will be made from the intersection of the flow line with the outside surface of the pipe into which it connects.

Where inlets, headwalls, catch basins, manholes, junction chambers, or other structures are included in lines of pipe, the length of pipe tying into the structure wall will be included for measurement, but no other portion of the structure length or width will be included.

For multiple pipes, the measured length will be the sum of the lengths of the barrels.

This is a plans quantity measurement Item. The quantity to be paid for is the quantity shown in the proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

10. 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 "Thermoplastic Pipe" of the size and backfill type specified. This price is full compensation for furnishing, hauling, placing, and joining pipes; connecting to new or existing structures; moving and reusing headwalls where required; removing and disposing of portions of existing structures as required; cutting of pipe ends on skew; and labor, tools, equipment, and incidentals.

Excavation, shaping, bedding, and backfill will be paid for in accordance with Item 400, "Excavation and Backfill for Structures."

Type I backfill will be paid in accordance with Item 401, "Flowable Backfill."

Safety end treatment will be paid for in accordance with Item 467, "Safety End Treatment."

Special Specification 5035

Remove and Replace Wood Fence



11. DESCRIPTION

This Item shall govern for the removal and replacement of wood fence supported by posts at locations shown on the plans or as designated by the Engineer.

12. MATERIALS

All replacement posts, rails, and pickets shall be of the same type of material and configuration as the existing fence.

13. CONSTRUCTION

Fence posts shall be spaced at intervals equal or closer than the existing fence. Posts shall be set in a vertical position. All posts shall be placed to the minimum depth below ground as shown on the plans or as directed by the Engineer. Posts shall be set plumb and firm to the line and grade shown on the plans.

14. MEASUREMENTS

This Item will be measured by the foot of replaced wood fence, measured along the face of the bottom rail of the fence from center to center of the end posts in the final position.

15. 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 "Remove and Replace Wood Fence." This price shall be full compensation for removing of the existing fence, furnishing and installing all fence materials as needed, digging post holes, including excavation, backfilling, disposal of surplus material, placing concrete for posts; for all preparation, hauling and installing of same, and for all labor, tools, equipment and incidentals.

ITEM 9500

TRENCH SAFETY SYSTEMS

9500.01 DESCRIPTION

This section covers excavation and supporting systems for trenches to protect the safety of workers, provide suitable means for constructing utility lines, and to protect public or private property, including existing utilities. A trench system shall be required for all trenches or excavation 5 feet or greater in depth.

The Contractor shall comply with the minimum requirements of this specification. Maintenance and inspection of any shoring and related equipment shall be the responsibility of the Contractor. The Contractor shall determine the safety system needed for the project within the minimum requirements of this specification. The Contractor has the sole responsibility to provide a safe work environment for all of his employees and anyone else present at the work site.

9500.02 SUBMITTALS

The Contractor shall submit to the Owner's Engineer a Trench Safety System designed and sealed by a Registered Professional Engineer registered and in good standing in the State of Texas. The Trench Safety System along with certification from the Contractor's Registered Professional Engineer indicating that the Contractor's Trench Safety System meets the minimum requirements of this specification shall be submitted to the Owner's Engineer. The Contractor shall make adjustments as required by the Owner and/or Engineer to meet minimum requirements at Contractor's expense. Approval of a trench safety system by the Owner and/or Engineer shall not relieve the Contractor of his responsibility to provide a safe working place for his employees.

In addition, the Contractor shall submit a general safety program that conforms to OSHA standards that govern the activities of individuals in and around trench excavations. Both the Trench Safety System and the general safety plan shall be submitted to the Owner's Engineer prior to the start of construction.

9500.03 REGULATORY COMPLIANCE

All trench excavations shall be accomplished in accordance with the detailed specifications set out in the provisions for Excavations, Trenching, and Shoring, as published by the Federal Occupational Safety and Health Administration (OSHA), 29 CFR, Part 1926, Subpart P, Section 1926.650 - 1926.653, and also the Rules published in the Federal Register (Vol. 52, No. 209, pages 45959 - 45991) on Tuesday October 31, 1989, or the latest revision thereof. These sections are hereby incorporated, by reference, into these specifications. Whatever method or option the Contractor may select, a request in writing must be submitted to the Engineer for approval before work can start.

REVIEW AND APPROVAL OF METHOD, EQUIPMENT AND PLANS BY THE ENGINEER WILL BE ONLY FOR GENERAL CONFORMANCE WITH OSHA SAFETY STANDARDS, AND IN NO CASE WILL REVIEW AND APPROVAL RELIEVE THE CONTRACTOR OF SOLE AND COMPLETE RESPONSIBILITY AND LIABILITY FOR ENSURING THE SAFETY OF ALL PERSONS PRESENT AT HIS WORK SITE OR FROM PROTECTING PROPERTY FROM DAMAGE WHICH MAY RESULT FROM HIS CONSTRUCTION OPERATIONS.

9500.04 EXISTING STRUCTURES

Where existing buildings, other utilities, streets, highways, or other structures are in close proximity to the trench, adequate protection shall be provided by the use of sheeting and shoring to protect the structure, street, or highway from possible damage. In the case of utilities, the Contractor may elect to remove the utility provided that the removal and subsequent replacement meets

with the approval of the Engineer and the utility owner. In all cases, it shall be the responsibility of the Contractor to protect public and private property and any person or persons who might, as a result of the Contractor's work, be injured.

9500.05 IMPLEMENTATION AND INSPECTION

The Contractor shall make daily inspections of the Trench Safety Systems to ensure that the systems meet OSHA requirements. Daily inspections are to be made by a "competent person" provided by the Contractor. If evidence of possible cave-ins, or failures, is apparent, all work in the trench shall cease until the necessary precautions have been taken by the Contractor to safeguard personnel entering the trench. The Contractor shall maintain a permanent record of daily inspections.

It is the sole duty, responsibility and prerogative of the Contractor, not the Owner or the Engineer, to determine the specific applicability of trench safety systems to each field and soil condition encountered on the project. He shall pay special attention to the type of soil or soils in which he will be working, any adjacent roads, highways, and railroads, and any previous excavations. All underground installations shall be located, including utility lines, pipelines, etc., before any excavation begins.

The Contractor shall provide a trench safety system in every trench. The trench safety system shall be installed in a true horizontal position, be spaced vertically and shall be secured to prevent sliding, falling, or kickouts. The trench safety system shall be effective to the bottom of the excavation. All trenches shall be provided with an adequate means of exit at all times with spacings of 25 feet or less. These means of exit shall be anchored in place in order to aid in the event a quick exit is necessary. During trench excavation, the excavated material shall be placed a minimum of two feet (2') away from the edge of the trench.

9500.06 MATERIALS AND MAINTENANCE

Materials used for sheeting, sheet piling, cribbing, bracing, shoring, and underpinning shall be in good serviceable condition. All materials which are found to be defective in any way shall be immediately removed from the job site. It shall be the responsibility of the Contractor to regularly check all trench safety equipment for soundness and adequacy. Steel trench shields shall be

constructed of steel plate sides, welded to a steel framework. All shields shall be constructed in order to provide protection equivalent to or greater than sheeting or shoring required for the trench. Adjustable jacks may be used in order to adjust the shield to varying trench widths. An access ladder shall be provided at the midpoint.

All maintenance of the trench safety equipment shall be the sole responsibility of the Contractor.

9500.07 INDEMNIFICATION

The Contractor shall indemnify and hold harmless the Owner, its employees and agents and the Engineer, from any and all damages, costs (including, without limitation, legal fees, court costs, and the cost of investigation), judgments or claims by anyone for injury or death of persons resulting from the failure of trenches constructed under this contract.

The Contractor acknowledges and agrees that this indemnity provision provides indemnity for the Owner and the Engineer in case the Owner and/or Engineer is negligent either by act or omission in providing for trench safety, including, but not limited to inspections, failure to issue stop work orders, and the hiring of the Contractor.

The Trench Safety System plan by the Contractor's Engineer should cover all situations that may be encountered during construction. It should be recognized that information contained in the Geotechnical Report is based on the data obtained from the soil borings and conditions along the line route may differ from those found at the individual soil boring locations. It is the Contractor's responsibilities to detect varying conditions which may be hazardous and take appropriate action. The Contractor is

responsible for determining the appropriate trench safety systems necessary for specific locations based on actual subsurface conditions encountered during construction. The Owner and Owner's Engineer shall be held harmless from any claim or liability for injury or loss that results from failure on the part of the Contractor to implement the Trench Safety System plan properly or to make necessary changes to the trench safety systems necessitated by conditions encountered during construction.

9500.08

MEASUREMENT AND PAYMENT

Measurement for payment for temporary sheeting, shoring, and bracing or equivalent method shall be paid for by the linear foot, all depths, as measured along the center line of the pipe including manholes/inlets and bore pits in accordance with the specification.

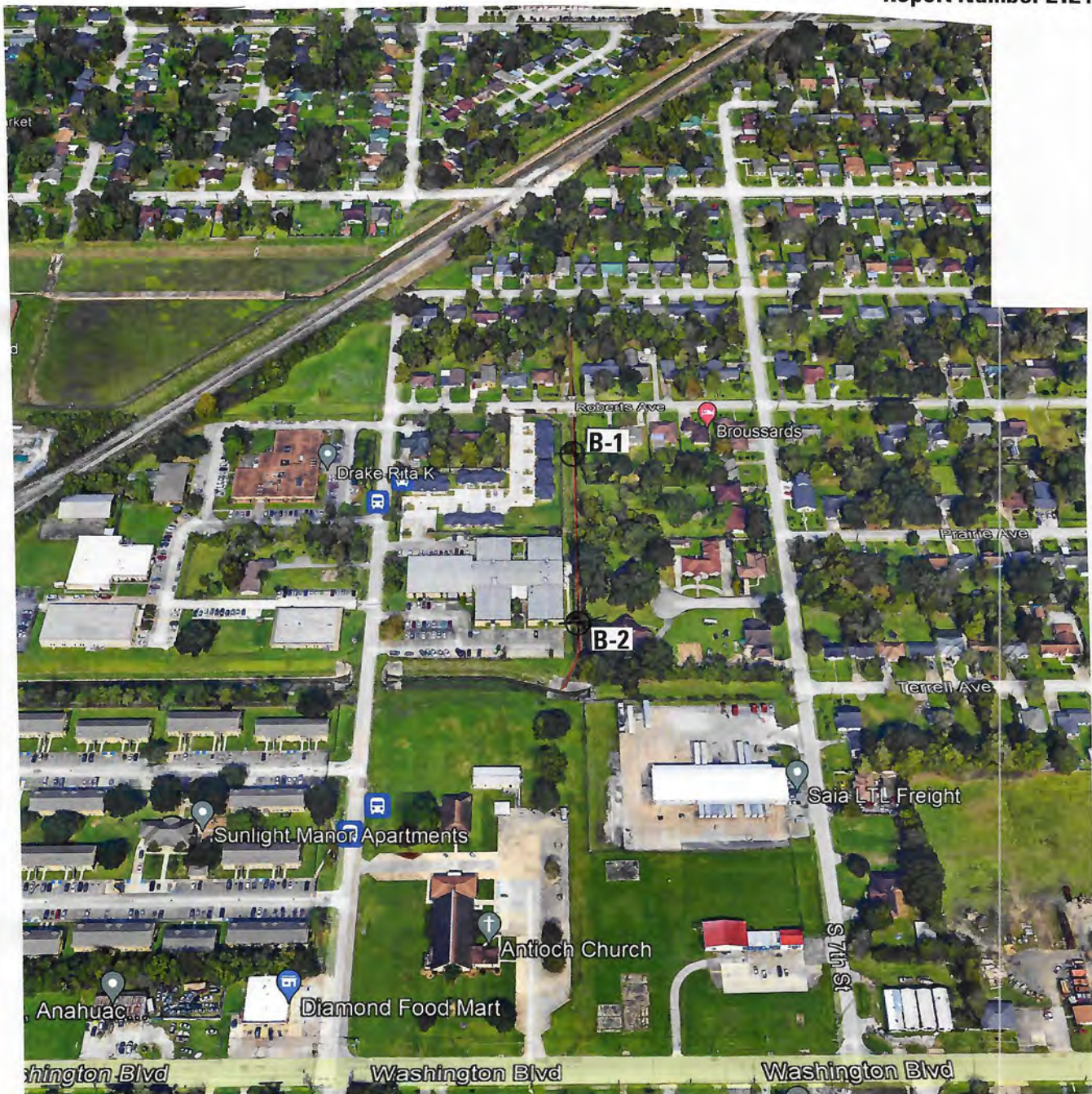
Measurement for payment for temporary sheeting, shoring, and bracing or equivalent method shall be paid for by the square foot for all shoring from five feet below ground to the bottom of the excavation for excavation in connection with the construction of the three proposed lift stations.

Payment shall be full compensation, in accordance with the pay items set in the bid for the trench safety system, including but not limited to planning, engineering, materials, equipment, fabrications, installation, inspection, recovery, all incidental work required, excavation and backfill including all benching, sloping, hauling shoring, sheeting, excess excavations, dewatering, sheet piling, bracing, trench shields, and all other incidentals necessary to provide the trench safety system as specified in the approved Trench Safety System plan.



SEL GEOTECHNICAL
ENVIRONMENTAL
MATERIALS TESTING

Report Number 21247



DITCH IMPROVEMENTS FOR DITCH 110B

BEAUMONT, TEXAS

DECEMBER 2021

NOT TO SCALE

P.O.Box 2048 Nederland, Texas 77627 Ph: (409) 982-0686 Fax: (409) 982-0619

Email: yousef@science-engineer.com



SEL

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS TESTING

LOG OF BORING

Project: Ditch 110B for the City of Beaumont
Beaumont, Texas

Project No: 21247

Boring Number: B-1

Date of Report: 12/15/2021

Location: See Attached Boring Plan

Date of Boring: 12/09/2021

Dry Auger: 0 to 20 Feet

Authorization: Mr. Stephen West

DEPTH, FEET	SYMBOL	SAMPLE	BLOWS PER FOOT	STRATUM DESCRIPTION	WATER CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	PERCENT PASSING NO. 200 SIEVE	SHEAR STRENGTH	
											POCKET PENETROMETER (TSF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
				Dary Gray CLAY; Fill			70	24	46			
				CH								
				Dark Gray CLAY with ferrous nodules							0.35	
5				tan and gray; slickensides	37	80	100	30	70		0.65	0.35
											1.00	
10					29	89	68	26	42		1.00	0.44
					26	94	63	24	39		1.25	0.50
15					24	100	66	24	42		1.50	0.70
				CH								
				Tan and Gray SANDY CLAY								
				CL	24	97	44	20	24		0.50	0.30
20				Bottom at 20 Feet								
				1. Water was encountered at 15 feet during drilling.								
				2. Water level at 13' - 2" after 5 minutes.								



SEL GEOTECHNICAL
ENVIRONMENTAL
MATERIALS TESTING

LOG OF BORING

Project: Ditch 110B for the City of Beaumont
Beaumont, Texas

Boring Number: B-2

Location: See Attached Boring Plan

Dry Auger: 0 to 20 Feet

Project No: 21247

Date of Report: 12/15/2021

Date of Boring: 12/09/2021

Authorization: Mr. Stephen West

DEPTH, FEET	SYMBOL	SAMPLE	BLOWS PER FOOT	STRATUM DESCRIPTION	WATER CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	PERCENT PASSING NO. 200 SIEVE	SHEAR STRENGTH	
											POCKET PENETROMETER (TSF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
				Dary Gray CLAY; Fill								
				CH							0.50	
				Dark Gray CLAY with ferrous nodules	29	80	96	27	69		0.75	0.72
5				tan and gray; slickensides							0.75	
					23	94	93	26	67		0.75	0.50
10					31	92	75	25	50		1.00	0.40
				CH	28	93	74	25	49		1.00	0.74
				Tan and Gray SANDY CLAY								
15					22	103	42	20	22		1.25	0.50
				CL	25	97	49	21	28		0.75	0.40
20				Bottom at 20 Feet								
				1. Water was encountered at 13 feet during drilling.								
				2. Water level at 12' - 8" after 5 minutes.								



SEL

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS TESTING

KEY TO SOIL CLASSIFICATION AND SYMBOLS

SOIL TYPE



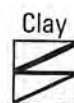
Gravel



Sand
Sandy



Silt
Silty



Clay
Clayey

Predominant type shown heavy

SAMPLE TYPE



Un-
Disturbed



Rock
Core



Split
Spoon



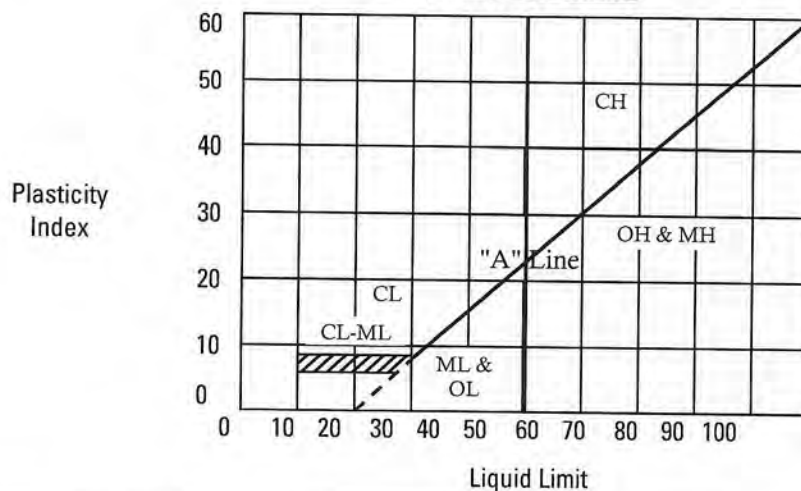
No
Recovery

SOIL GRAIN SIZE

U.S. Standard Sieve

6"	3"	3/4"	4	10	40	200		
Boulders	Cobbles	Gravel		Sand			Silt	Clay
		Coarse	Fine	Coarse	Medium	Fine		
152	76.2	19.1	4.76	2.00	0.420	0.074	0.002	(mm)

PLASTICITY CHART



CONSISTENCY OF COHESIVE SOILS

Penetration Resistance, blows per foot	Consistency	Cohesion TSF	Plasticity Index	Degree of Plasticity
0 - 2	Very Soft	0 - 0.125	0 - 5	None
2 - 4	Soft	0.125 - 0.25	5 - 10	Low
4 - 8	Firm	0.25 - 0.5	10 - 20	Moderate
8 - 15	Stiff	0.5 - 1.0	20 - 40	Plastic
15 - 30	Very Stiff	1.0 - 2.0	> 40	Highly Plastic
> 30	Hard	> 2.0		

RELATIVE DENSITY OF COHESIONLESS SOILS

Penetration Resistance, blows per foot	Relative Density
0 - 4	Very Loose
4 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
> 50	Very Dense

CONTRACT

PROFESSIONAL ENGINEERING SERVICES

PART I: AGREEMENT.

THIS AGREEMENT, entered into this 8th day of March, 2022, by and between the COUNTY OF Jefferson, Texas hereinafter called the "County", acting herein by Jeff R. Branick, Jefferson County Judge here unto duly authorized, and Freese & Nichols, Inc. hereinafter called "the Contractor" and/or "DEC", acting herein by Chuck M. Wolf, Principal.

WITNESSETH THAT:

WHEREAS, the County of Jefferson, Texas desires to implement/complete the following:

Contractor will carry out approved activities for a drainage improvements project for the Crane Bayou Pump Station. This project will provide the Jefferson County Drainage District No. 7 Crane Bayou Pump Station with new generators and generator housing. The generators will allow the pump station to continue to operate in the event of power outages during pumping operations, especially during major storm events. This project will consist of providing a new concrete building designed to handle hurricane force winds, two (2) 200kW diesel generators, automatic transfer switch/switchgear, belly tanks, replacement motor control center, and piping/electrical wiring.

Background Information and Special Project Requirements: This levee is partially owned by the United States Army Corps of Engineers (USACE). Project will require the awarded/contracted engineering firm to perform USACE permitting activities associated with the site, and potentially permitting activities for other impacted parties. The awarded/contracted engineering firm will ensure that construction is consistent with HUD defined Critical Actions under 55.2(3)(b)(i) and HUD federal register notice relating to elevation and/or flood proofing requirements.

Project Location / Approximate Latitude & Longitude:

DD7 Levee Road

29.929227, -93.880833

NOW THEREFORE, the parties do mutually agree as follows:

1. Scope of Services

The Contractor will perform the services set out in Part II, Scope of Services.

2. Time of Performance

The services of the Contractor shall commence per the County's issuance of a Notice to Proceed. In any event, all of the services required and performed hereunder shall be completed **no later than July 1, 2024.**

3. Local Program Liaison

For purposes of this Contract, The Jefferson County Judge or equivalent authorized person will serve as the Local Program Liaison and primary point of contact for the Contractor. All required progress reports and communication regarding the project shall be directed to this liaison and other local personnel as appropriate.

4. Access to Records

The Texas General Land Office, The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, the Texas Department of Agriculture

(TDA), and the County, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the Engineering Services award, in order to make audits, examinations, excerpts, and transcripts, and to close-out the County's Engineering Services contract with **Freese & Nichols, Inc.**

5. Retention of Records

The Contractor shall retain all required records for three years after the County makes its final payment and all pending matters are closed.

6. Compensation and Method of Payment

The maximum amount of compensation and reimbursement to be paid hereunder shall not exceed \$226,217. Payment to the Contractor shall be based on satisfactory completion of identified milestones in Part III - Payment Schedule of this Agreement.

7. Indemnification

The Contractor shall comply with the requirements of all applicable laws, rules and regulations, and shall exonerate, indemnify, and hold harmless the County and its agency members from and against any and all claims, costs, suits, and damages, including attorneys' fees, arising out of the Contractor's negligent acts or omissions of the activities, services or subject matter called for in this agreement or in connection with the management and administration of the GLO contract, and shall assume full responsibility for payments of Federal, State and local taxes on contributions imposed or required under the Social Security, worker's compensation and income tax laws.

8. Miscellaneous Provisions

- a. This Agreement shall be construed under and in accord with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Jefferson County, Texas.
- b. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, executors, administrators, legal representatives, successors and assigns where permitted by this Agreement.
- c. In any case one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.
- d. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled.
- e. This Agreement may be amended by mutual agreement of the parties hereto and a writing to be attached to and incorporated into this Agreement.

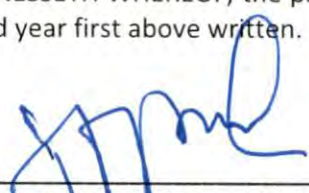
9. Extent of Agreement

This Agreement, which includes Parts I-IV, including the following exhibits/attachments: represents the entire and integrated agreement between the County and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by authorized representatives of both County and Contractor.

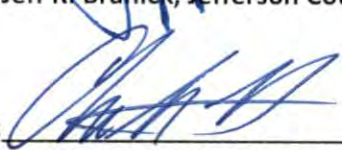
The executed agreement documents shall consist of the following components:

- a. THIS CONTRACT DOCUMENT, PARTS I-IV (PAGES 1-11)
- b. ATTACHMENT SC: SCOPE OF SERVICES AND RESPONSIBILITIES OF OWNER (PAGES SC.1 – SC.11)
- c. ATTACHMENT CO: COMPENSATION (PAGE CO.1)
- d. ATTACHMENT A:
 - RFQ SPECIFICATIONS FOR THIS PROJECT (PAGES A.1 – A.55)
 - SIGNED COPY OF CONTRACTOR'S RFQ RESPONSE (PAGES A.56 – A.196)

IN WITNESSETH WHEREOF, the parties have executed this Agreement by causing the same to be signed on the day and year first above written.

BY: 
 Jeff R. Branick, Jefferson County Judge

DATE: March 8, 2022

BY: 
 AUTHORIZED REPRESENTATIVE
 Chuck Wolf, Principal
 Freese & Nichols, Inc.

DATE: 3/7/2022

ATTEST: 
 Laurie Leister, Interim County Clerk
 Jefferson County

DATE: 3-8-22



CONTRACT

PROFESSIONAL ENGINEERING SERVICES PART II: SCOPE OF SERVICES.

The Contractor shall provide the following scope of services:

Awarded firms shall be responsible for the performance of all required Engineering Design Services as described within the Request for Statements of Qualifications (RFQ) specifications, addenda, and appendices for this project. All submitted responses shall be for principal firms and may include subcontractors.

A description of services that may be utilized under this RFQ includes but is not limited to:

Contractor will carry out approved activities for a drainage improvements project for the Crane Bayou Pump Station. This project will provide the Jefferson County Drainage District No. 7 Crane Bayou Pump Station with new generators and generator housing. The generators will allow the pump station to continue to operate in the event of power outages during pumping operations, especially during major storm events. This project will consist of providing a new concrete building designed to handle hurricane force winds, two (2) 200kW diesel generators, automatic transfer switch/switchgear, belly tanks, replacement motor control center, and piping/electrical wiring.

▪ **SCOPE OF SERVICES AND RESPONSIBILITIES OF OWNER:**

(ATTACHMENT SC: PAGE SC.1 – SC.11)

▪ **PROPOSED SUBCONTRACTOR DOCUMENTATION (ATTACHMENT A):**

- Tolunay-Wong Engineers Inc. (PAGES A.39 – A.46)
- MBCO Engineering, LLC. (PAGES A.47 – A.55)

As these projects are to be grant funded, the County maintains the right to contract engineering services (under this RFQ) as needed as the scope of services/projects funded are subject to change depending upon grant funds received.

CONTRACT**PROFESSIONAL ENGINEERING SERVICES****PART III: PAYMENT SCHEDULE.**

County shall reimburse **Freese and Nichols, Inc.** provided and as described within this contract document and bid specifications, as described in the documents included in **ATTACHMENT CO** to this contract document:

- **Engineering Fee Estimate and Rate Schedule (Pages CO.1)**

CONTRACT

PROFESSIONAL ENGINEERING SERVICES PART IV: TERMS AND CONDITIONS

1. **Termination for Cause.** If the Contractor fails to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor violates any of the covenants, conditions, agreements, or stipulations of this Agreement, the County shall have the right to terminate this Agreement by giving written notice to the Contractor of such termination and specifying the effective date thereof, which shall be at least five days before the effective date of such termination. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Contractor pursuant to this Agreement shall, at the option of the County, be turned over to the County and become the property of the County. In the event of termination for cause, the Contractor shall be entitled to receive reasonable compensation for any necessary services actually and satisfactorily performed prior to the date of termination.

Notwithstanding the above, the Contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of contract by the Contractor, and the County may set-off the damages it incurred as a result of the Contractor's breach of contract from any amounts it might otherwise owe the Contractor.

2. **Termination for Convenience of the County.** County may at any time and for any reason terminate Contractor's services and work at County's convenience upon providing written notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

[Parties should include the manner by which such termination will be affected and the basis for settlement or any other terms and conditions concerning payment upon such termination.]

3. **Changes.** The County may, from time to time, request changes in the services the Contractor will perform under this Agreement. Such changes, including any increase or decrease in the amount of the Contractor's compensation, must be agreed to by all parties and finalized through a signed, written amendment to this Agreement.
4. **Resolution of Program Non-Compliance and Disallowed Costs.** In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement, or the breach thereof including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or Texas General Land Office Community Development Block Grant-Disaster Relief program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Agreement and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the

costs of such mediation equally. If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.

5. Personnel.

- a. The Contractor represents that he/she/it has, or will secure at its own expense, all personnel required in performing the services under this Agreement. Such personnel shall not be employees of or have any contractual relationship with the County.
- b. All of the services required hereunder will be performed by the Contractor or under its supervision and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and Local law to perform such services.
- c. None of the work or services covered by this Agreement shall be subcontracted without the prior written approval of the County. Any work or services subcontracted hereunder shall be specified by written contract or agreement and shall be subject to each provision of this Agreement.

6. Assignability. The Contractor shall not assign any interest on this Agreement, and shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of the County thereto; Provided, however, that claims for money by the Contractor from the County under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment or transfer shall be furnished promptly to the County.

7. Reports and Information. The Contractor, at such times and in such forms as the County may require, shall furnish the County such periodic reports as it may request pertaining to the work or services undertaken pursuant to this Agreement, the costs and obligations incurred or to be incurred in connection therewith, and any other matters covered by this Agreement.

8. Records and Audits. The Contractor shall ensure the submission of fiscal records and supporting documentation for all expenditures of funds made under this contract to the County; in a manner that conforms to 2 CFR 200.300-.309, 24 CFR 570.490, and this Agreement. Such records must include data on the racial, ethnic, and gender characteristics of persons who are applicants for, participants in, or beneficiaries of the funds provided under this Agreement. County shall retain such records, and any supporting documentation, for the greater of three years from closeout of the Agreement or the period required by other applicable laws and regulations.

- a. **Findings Confidential.** All of the reports, information, data, etc., prepared or assembled by the Contractor under this contract are confidential and the Contractor agrees that they shall not be made available to any individual or organization without the prior written approval of the County.
- b. **Copyright.** No report, maps, or other documents produced in whole or in part under this Agreement shall be the subject of an application for copyright by or on behalf of the Contractor.
- c. **Compliance with Local Laws.** The Contractor shall comply with all applicable laws, ordinances and codes of the State and local governments, and the Contractor shall save the County harmless with respect to any damages arising from any tort done in performing any of the work embraced by this Agreement.

9. Conflicts of Interest.

- a. **Governing Body.** No member of the governing body of the County and no other officer, employee, or agent of the County, who exercises any functions or responsibilities in connection with administration, construction, engineering, or implementation of the GLO award between GLO and the County shall have any personal financial interest, direct or indirect, in the Contractor or this Agreement; and the Contractor shall take appropriate steps to assure compliance.
- b. **Other Local Public Officials.** No other public official who exercises any functions or responsibilities in connection with the planning and carrying out of administration, construction, engineering or implementation of the Engineering Services award between Freese and Nichols, Inc. and the County shall have any personal financial interest, direct or indirect, in the Contractor or this Agreement; and the Contractor shall take appropriate steps to assure compliance.
- c. **Contractor and Employees.** The Contractor warrants and represents that it has no conflict of interest associated with the Engineering Services award between Freese and Nichols, Inc. and the County or this Agreement. The Contractor further warrants and represents that it shall not acquire an interest, direct or indirect, in any geographic area that may benefit from the GLO award between GLO and the County or in any business, entity, organization or person that may benefit from the award. The Contractor further agrees that it will not employ an individual with a conflict of interest as described herein.

10. Debarment and Suspension (Executive Orders 12549 and 12689). The Contractor certifies, by entering into this Agreement, that neither it nor its principals are presently debarred, suspended, or otherwise excluded from or ineligible for participation in federally-assisted programs under Executive Orders 12549 (1986) and 12689 (1989). The term "principal" for purposes of this Agreement is defined as an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor. The Contractor understands that it must not make any award or permit any award (or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

Federal Civil Rights Compliance.

11. Equal Opportunity Clause (applicable to federally assisted construction contracts and subcontracts over \$10,000).

During the performance of this contract, the Contractor agrees as follows:

- a. 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.

b. 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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

c. The Contractor will not discourage 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.

d. 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.

e. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, "Equal Employment Opportunity," and of the rules, regulations, and relevant orders of the Secretary of Labor.

f. 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.

g. 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.

h. The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (h) 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.

12. **Civil Rights Act of 1964.** Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, religion, sex, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.
13. **Section 109 of the Housing and Community Development Act of 1974.** The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the ground 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 funded in whole or in part with funds made available under this title.
14. **Section 504 Rehabilitation Act of 1973, as amended.** The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his/her disability, be denied the benefits of, or be subjected to discrimination, including discrimination in employment, under any program or activity receiving federal financial assistance.
15. **Age Discrimination Act of 1975.** 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.

[If this Contract is greater than \$100,000, include the following Section 3 language:]

16. Economic Opportunities for Section 3 Residents and 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. Non-compliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this Agreement 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 Agreement. 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 subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this Agreement 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 7(b).

ATTACHMENT SC

ATTACHMENT SC

SCOPE OF SERVICES AND RESPONSIBILITIES OF OWNER**ARTICLE I****INTRODUCTION AND PURPOSE:**

Hurricane Harvey overwhelmed the drainage system of Jefferson County, Texas (County). Heavy rainfall caused flooding of homes and streets. This inundated the drainage system and threatened public health, safety, and welfare.

In response to the identified needs for drainage improvements, Jefferson County has applied for the upcoming Community Development Block Grant – Disaster Recovery funding from the General Land Office – Community Development & Revitalization (GLO).

PROJECT DESCRIPTION:

The Jefferson County Drainage District No. 7 (Owner) is proceeding with design and construction of the Crane Bayou Pump Station Building and Generators (The Project). The Project will include the following:

1. Installation of two (2) 200 kW diesel generators with belly tanks. FNI will collect information in the field for loads to be added to the generator and perform a sizing analysis for the generator.
2. Provide load analysis to confirm size of new diesel generators from item 1.
3. Installation of one new automatic transfer switch and electrical distribution including a motor control center, stepdown transformer(s) and panelboards.
4. Installation of a fuel line from existing elevated day tanks to a location inside the generator building to allow for manual refilling of the generator belly tanks.
5. Installation of a new station Motor Control Center with new soft starters for the existing electrical pumps.
6. Provide design (Plans and Specifications) for a new cast in place concrete generator building and foundation designed for Category 5 hurricane force winds and impact. The new generator building will be built adjacent to the existing pump station building allowing entrance into the new building from the existing pedestrian door. New building will have an opening sized to allow each generator to be removed with forklift or similar equipment.
7. Provide new feeders and conduit/cabling for the new generator, switchgear and automatic transfer switch.
8. Provide new feeders and conduit/cabling for new building including lighting and ventilation
9. Provide engine ventilation and exhaust systems in the generator building. The new building will not have heat or plumbing.
10. File applications with the local fire marshal for a new building.
11. Coordinate with the local electrical utility company for reconnection to the existing electric utility

Contract will be expected to provide Engineering Design Services, Bidding Services, and Construction Administration Services for this project.

The Project will be delivered using the design-bid-build delivery method .

The Owner will provide the following services for the project:

1. Existing drawings of the Crane Bayou Pump Station.
2. Electrical requirements to confirm generator loading.
3. Access to the site

The Owner will use Disaster Recovery funding through the General Land Office – Community Development & Revitalization (GLO) program. FNI will assist Owner by preparing and submitting a Preliminary Engineering Report, final plans and specifications, and monthly construction reports for the design and construction phases.

BASIC SERVICES: Compensation to FNI for Basic Services shall be in the lump sum of Two Hundred Six Thousand Seven Hundred Seventy Three Dollars (\$206,773). FNI shall render the following professional services in connection with the development of the Project:

A. PROJECT MANAGEMENT

Upon execution of this Agreement, FNI shall:

1. Conduct kickoff meeting to review scope, schedule, and budget; determine any special conditions that may affect design and/or construction; discuss administrative requirements of Owner; and to develop design criteria.
2. Manage efforts of internal design team and sub-consultants on the Project and perform Quality Control review of all deliverables.
3. Prepare meeting agendas and minutes and attend the following meetings:
 - a. Attend one in-person site visit up and workshop for review of milestone design submittals.
 - b. Attend up to three video conference project status meetings with the client.
 - c. Attend one video conference comment resolution meeting.
 - d. Attend one meeting with third parties, including other consultants providing services to Owner.
 - e. Attend one meeting with utility providers needed for the project.
4. Prepare a Microsoft Project schedule and provide monthly updates including necessary revisions to bring the Project back on schedule if needed. The project schedule will not be resource loaded.
5. Provide a web-based Document Control System (DCS). Share documents through the DCS including all deliverables, minutes, decision log, action items, reports, construction submittals and pertinent documents.
6. Prepare monthly reporting including status report, recent activities, upcoming activities, action items log, decisions made log, budget updates, schedule updates, and scope changes. Prepare monthly invoices.
7. Deliverables include the following:
 - a. Agendas and minutes for all meetings
 - b. Project schedule updated monthly
 - c. Monthly reporting
 - d. Monthly invoices

B. DESIGN PHASE: After project kickoff, FNI shall provide professional services in this phase as follows:

1. Prepare front end documents, including bid documents, general conditions, and special conditions for the construction and equipment packages, based upon FNI's standard documents. Meet with Owner to resolve review comments, and revise documents accordingly.

2. Prepare applications for routine permits such as building code design reviews (if any), Handicap accessibility (ADA) permitting, and State Fire Marshal approval. Preparation of applications and supporting documents for government grants, United States Army Corps of Engineers or for planning advances is an Additional Service.
 3. Furnish such information necessary to utility companies whose facilities may be affected, or services may be required for the Project. Provide site civil design of the facility sites to support the electric utilities site requirements, including site grading, roads, underground duct banks, and equipment pads if necessary. Easements for utilities companies will be provided as a Special Service.
 4. Prepare the final generator size based on electrical loads and design criteria provided by the owner.
 5. Conduct a workshop with Owner's staff to discuss layouts, equipment selection, construction materials, operation and maintenance criteria. FNI will bring lead designers from the major disciplines to the workshop. FNI will attend site trips with Owner's staff to view similar generator buildings for up to one day, including travel.
 6. Prepare opinion of probable construction cost at the 60% and 95% submittals.
 7. 60% Review: Prepare drawings, specifications, construction contract documents, designs, and layouts of improvements to be constructed. Prepare bidder's proposal forms (project quantities) of the improvements to be constructed. Furnish Owner three (3) sets of copies of drawings, specifications, and bid proposals marked "Preliminary" for approval by Owner. FNI will meet with the Owner to present the plans and specifications and receive comments. Review documents will include dimensional layout drawings, plans, sections and elevations for all the trades, typical details, and most special details. The draft specifications will include major equipment items. FNI will receive comments from Owner and address comments in the 95% Review.
 8. 95% Review: Furnish Owner three (3) sets of copies of drawings, specifications, and bid proposals marked "Preliminary" for approval by Owner. FNI will meet with the Owner to present the plans and specifications and receive comments. Review documents will include all plans and specifications with minor corrections and notes remaining. FNI will receive comments from Owner and address comments in the Final Draft. Upon final approval by Owner, FNI will provide Owner three (3) sets of copies of "Final" plans and specifications.
 9. Deliverables for the Final Design Phase include:
 - a. Front end documents for construction package.
 - b. Routine Permit Applications (State Fire Marshal, Building Permits, ADA Permit)
 - c. Information to utility companies to acquire utility service (electric, telephone, water, wastewater, gas)
 - d. OPCC at 60% and 95% submittals
 - e. 60% submittal of Plans and Specifications
 - f. 95% submittal of Plans and Specifications
 - g. Final Plans and Specifications
- E. BID OR NEGOTIATION PHASE: Upon completion of the design services and approval of "Final" drawings and specifications by Owner, FNI will proceed with the performance of services in this phase as follows:

1. Assist Owner in securing bids. Issue a Notice to Bidders to prospective contractors and vendors listed in FNI's database of prospective bidders, and to selected plan rooms. Provide a copy of the notice to bidders for Owner to use in notifying construction news publications and publishing appropriate legal notice. The cost for publications shall be paid by Owner.
2. Submit electronic copies of plans, specifications and bidding documents to CIVCAST. Prospective bidders may download and print documents from CIVCAST, who will maintain plan holder list and post addenda. FNI will also list bid projects on the FNI website.
3. Assist Owner by responding to questions and interpreting bid documents. Prepare and issue addenda to the bid documents to CIVCAST if necessary.
4. Assist the Owner in conducting a pre-bid conference for the construction projects and coordinate responses with Owner. Response to the pre-bid conference will be in the form of addenda issued after the conference. Attend the tour of the project site after the pre-bid conference.
5. Review Pre-qualification documents of prospective bidders and issue a list of eligible bidders prior to the bid opening.
6. At Owner request, FNI will assist Owner in the opening, tabulating, and analyzing the bids received. Review the qualification information provided by the apparent low bidder to determine if, based on the information available, they appear to be qualified to construct the project. Recommend award of contracts or other actions as appropriate to be taken by Owner.
7. For construction or equipment packages with CSP, prepare instructions to proposers, proposal evaluation criteria and proposal submittal requirements. After receipt of proposals, prepare preliminary tabulation of scoring criteria for the bidders, and meet with Owner to evaluate and score proposals. If necessary, attend interviews with short-listed proposers and assist Owner with final scoring. Prepare a recommendation of award of contracts or other actions as appropriate.
8. Assist Owner in the preparation of Construction Contract Documents for construction contracts. Provide ten (10) sets of Construction Contract Documents which include information from the selected bidders' bid documents, legal documents, and addenda bound in the documents for execution by the Owner and construction contractor. Distribute five (5) copies of these documents to the contractor with a notice of award that includes directions for the execution of these documents by the construction contractor. Provide Owner with the remaining five (5) copies of these documents for use during construction. Additional sets of documents can be provided as an additional service.
9. Furnish contractor copies of the drawings and specifications for construction pursuant to the General Conditions of the Construction Contract.
10. Deliverables for the Bid or Negotiation Phase include:
 - a. Notice to Bidders
 - b. Electronic copies of plans, specifications, bidding documents, and addenda
 - c. Tabulation of selection criteria for Proposers (CSP Only)
 - d. Recommendation of Award with tabulation of bids
 - e. Notice of award to selected bidder
 - f. Conformed contract documents for execution
 - g. Copies of conformed contract documents for Contractor and Owner

- F. CONSTRUCTION PHASE: Upon completion of the bid or negotiation phase services, FNI will proceed with the performance of construction phase services as described below. FNI will endeavor to protect Owner in providing these services however, it is understood that FNI does not guarantee the Contractor's performance, nor is FNI responsible for supervision of the Contractor's operation and employees. FNI shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or any safety precautions and programs relating in any way to the condition of the premises, the work of the Contractor or any Subcontractor. FNI shall not be responsible for the acts or omissions of any person (except its own employees or agents) at the Project site or otherwise performing any of the work of the Project.

These services are based on the use of FNI standard General Conditions for construction projects. Modifications to these services required by use of other general conditions or contract administration procedures are an additional service. If general conditions other than FNI standards are used, the Owner agrees to include provisions in the construction contract documents that will require the construction contractor to include FNI and their subconsultants on this project to be listed as an additional insured on contractor's insurance policies.

1. Assist Owner in conducting pre-construction conference(s) with the Contractor(s), review construction schedules prepared by the Contractor(s) pursuant to the requirements of the construction contract and prepare a proposed estimate of monthly cash requirements of the Project from information provided by the Construction Contractor.
2. Establish communication procedures with the Owner and contractor. Submit monthly, reports of construction progress. Reports will describe construction progress in general terms and summarize project costs, cash flow, construction schedule and pending and approved contract modifications.
3. Establish and maintain a project documentation system consistent with the requirements of the construction contract documents. Monitor the processing of contractor's submittals and provide for filing and retrieval of project documentation. Produce monthly reports indicating the status of all submittals in the review process. Review contractor's submittals, including, requests for information, modification requests, shop drawings, schedules, and other submittals in accordance with the requirements of the construction contract documents for the projects. Monitor the progress of the contractor in sending and processing submittals to see that documentation is being processed in accordance with schedules.
4. Based on FNI's observations as an experienced and qualified design professional and review of the Payment Requests and supporting documentation submitted by Contractor, determine the amount that FNI recommends Contractor be paid on monthly and final estimates, pursuant to the General Conditions of the Construction Contract.
5. Make periodic visits up to a total of six (6) appropriate to the stage of construction to the site (as distinguished from the continuous services of a Resident Project Representative) to observe the progress and the quality of work and to attempt to determine in general if the work is proceeding in accordance with the Construction Contract Documents. In this effort FNI will endeavor to protect the Owner against defects and deficiencies in the work of Contractors and will report any observed deficiencies to Owner. Visits to the site in excess of the specified number are an additional service.
6. Notify the contractor of non-conforming work observed on site visits. Review quality related documents provided by the contractor such as test reports, equipment installation reports or other documentation required by the Construction contract documents.
7. Coordinate the work of testing laboratories and inspection bureaus required for the testing or inspection of materials, witnessed tests, factory testing, etc. for quality control of the Project. The

- cost of such quality control shall be paid by Owner and is not included in the services to be performed by FNI.
8. Interpret the drawings and specifications for Owner and Contractor(s). Investigations, analyses, and studies requested by the Contractor(s) and approved by Owner, for substitutions of equipment and/or materials or deviations from the drawings and specifications is an additional service.
 9. Establish procedures for administering constructive changes to the construction contracts. Process contract modifications and negotiate with the contractor on behalf of the Owner to determine the cost and time impacts of these changes. Prepare change order documentation for approved changes for execution by the Owner. Documentation of field orders, where cost to Owner is not impacted, will also be prepared. Investigations, analyses, studies or design for substitutions of equipment or materials, corrections of defective or deficient work of the contractor or other deviations from the construction contract documents requested by the contractor and approved by the Owner are an additional service. Substitutions of materials or equipment or design modifications requested by the Owner are an additional service.
 10. Prepare documentation for contract modifications required to implement modifications in the design of the project. Receive and evaluate notices of contractor claims and make recommendations to the Owner on the merit and value of the claim on the basis of information submitted by the contractor or available in project documentation. Endeavor to negotiate a settlement value with the Contractor on behalf of the Owner if appropriate. Providing these services to review or evaluate construction contractor(s) claim(s), supported by causes not within the control of FNI are an additional service.
 11. Assist in the transfer of and acceptance by the construction contractor of any Owner furnished equipment or materials.
 12. Conduct, in company with Owner's representative, a final review of the Project for conformance with the design concept of the Project and general compliance with the Construction Contract Documents. Prepare a list of deficiencies to be corrected by the contractor before recommendation of final payment. Assist the Owner in obtaining legal releases, permits, warranties, spare parts, and keys from the contractor. Review and comment on the certificate of completion and the recommendation for final payment to the Contractor(s). Visiting the site to review completed work in excess of two trips are an additional service.
 13. Revise the construction drawings in accordance with the information furnished by construction Contractor(s) reflecting changes in the Project made during construction. Two (2) sets of prints of "Record Drawings" shall be provided by FNI to Owner.

ARTICLE II

SPECIAL SERVICES: Special Services to be performed by FNI include the following:

A. TOPOGRAPHIC SURVEYING SERVICES:

MBCO Engineer LLC will provide topographic surveying of the project site. A detailed scope of services is attached in the MBCO proposal.

Lump Sum: \$7,969

B. GEOTECHNICAL ENGINEERING:

Tolunay-Wong Engineers, Inc. (TWE) will provide geotechnical sampling, laboratory analysis, and engineering. One 80-foot deep boring will be conducted within the footprint of the proposed generator building. A detailed scope of services is attached in the TWE proposal.

Lump Sum: \$9,975

C. BUILDING INTERIOR 3D SCAN

A subconsultant (TBD) will be procured to produce a three-dimensional model of the building interior.

Allowance: \$1,500

ARTICLE III

ADDITIONAL SERVICES: Additional Services to be performed by FNI, if authorized by Owner, which are not included in the above described basic services, are described as follows:

- A. Field surveying required for the preparation of designs and drawings. Field layouts or the furnishing of construction line and grade surveys. Making property, boundary and right of way surveys, preparation of easement and deed descriptions, including title search and examination of deed records. GIS mapping services or assistance with these services.
- B. Providing services to investigate existing conditions or facilities, or to make measured drawings thereof, or to verify the accuracy of drawings or other information furnished by Owner.
- C. Providing renderings, model, and mock-ups requested by the Owner.
- D. Making revisions to drawings, specifications or other documents when such revisions are 1) not consistent with approvals or instructions previously given by Owner or 2) due to other causes not solely within the control of FNI.
- E. Providing consultation concerning the replacement of any Work damaged by fire or other cause during the construction and providing services as may be required in connection with the replacement of such Work. Performing investigations, studies, and analysis of work proposed by construction contractors to correct defective work. Any services required as a result of default of the contractor(s) or the failure, for any reason, of the contractor(s) to complete the work within the contract time. Providing services after the completion of the construction phase not specifically listed in Article II. Visits to the site in excess of the number of trips included in Article II for periodic site visits, coordination meetings, or contract completion activities. Providing services made necessary because of unforeseen, concealed, or differing site conditions or due to the presence of hazardous substances in any form. Providing services to review or evaluate construction contractor(s) claim(s), provided said claims are supported by causes not within the control of FNI. Providing value engineering studies or reviews of cost savings proposed by construction contractors after bids have been submitted. Provide follow-up professional services during Contractor's warranty period.
- F. Investigations involving consideration of operation, maintenance and overhead expenses, and the preparation of rate schedules, earnings and expense statements, feasibility studies, appraisals, evaluations, assessment schedules, and material audits or inventories required for certification of force account construction performed by Owner.
- G. Preparing applications and supporting documents for government grants, loans, or planning advances and providing data for detailed applications.
- H. Providing shop, mill, field or laboratory inspection of materials and equipment. Observe factory tests of equipment at any site remote to the project or observing tests required as a result of equipment failing the initial test.

- I. Conducting pilot plant studies or tests.
- J. Preparing Operation and Maintenance Manuals or conducting operator training.
- K. Preparing data and reports for assistance to Owner in preparation for hearings before regulatory agencies, courts, arbitration panels or any mediator, giving testimony, personally or by deposition, and preparations therefore before any regulatory agency, court, arbitration panel or mediator.
- L. Furnishing the services of a Resident Project Representative to act as Owner's on-site representative during the Construction Phase. The Resident Project Representative will act as directed by FNI in order to provide more extensive representation at the Project site during the Construction Phase. Through more extensive on-site observations of the work in progress and field checks of materials and equipment by the Resident Project Representative and assistants, FNI shall endeavor to provide further protection for Owner against defects and deficiencies in the work. Furnishing the services of a Resident Project Representative is subject to the provisions of Article I, D and Attachment RPR.

If Owner provides personnel to support the activities of the Resident Project Representative who is FNI or FNI's agent or employee, the duties, responsibilities and limitations of authority of such personnel will be set forth in an Attachment attached to and made a part of this Agreement before the services of such personnel are begun. It is understood and agreed that such personnel will work under the direction of and be responsible to the Resident Project Representative. Owner agrees that whenever FNI informs him in writing that any such personnel provided by the Owner are, in his opinion, incompetent, unfaithful or disorderly, such personnel shall be replaced.

- M. Furnishing Special Inspections required under chapter 17 of the International Building Code. These Special Inspections are often continuous, requiring an inspector dedicated to inspection of the individual work item, and they are in addition to General Representation and Resident Representation services noted elsewhere in the contract. These continuous inspection services can be provided by FNI as an Additional Service.
- N. Furnishing Inspections and Commissioning Reports required by International Energy Efficiency Code (IECC).
- O. Assisting Owner in preparing for, or appearing at litigation, mediation, arbitration, dispute review boards, or other legal and/or administrative proceedings in the defense or prosecution of claims disputes with Contractor(s).
- P. Performing investigations, studies and analyses of substitutions of equipment and/or materials or deviations from the drawings and specifications.
- Q. Assisting Owner in the defense or prosecution of litigation in connection with or in addition to those services contemplated by this Agreement. Such services, if any, shall be furnished by FNI on a fee basis negotiated by the respective parties outside of and in addition to this Agreement.
- R. Providing environmental support services including the design and implementation of ecological baseline studies, environmental monitoring, impact assessment and analyses, permitting assistance, and other assistance required to address environmental issues.
- S. Design, contract modifications, studies or analysis required to comply with local, State, Federal or other regulatory agencies that become effective after the date of this agreement.
- T. USACE permitting activities associated with the site, and potentially permitting activities for other impacted parties.

- U. Services required to resolve bid protests or to rebid the projects for any reason.
- V. Providing basic or additional services on an accelerated time schedule. The scope of this service include cost for overtime wages of employees and consultants, inefficiencies in work sequence and plotting or reproduction costs directly attributable to an accelerated time schedule directed by the Owner.
- W. Electrical Relay, Power System, And Arc Flash Studies
- X. Environmental Services

ARTICLE IV

TIME OF COMPLETION: FNI is authorized to commence work on the Project upon execution of this Agreement and agrees to complete the services in accordance with the following schedule:

1. 60% Design - 60 Days after Kickoff meeting including a site visit and workshop.
2. 95% Design - 30 Days after receiving Owner comments on 60% Design
3. Final Design - 15 Days after receiving Owner Comments on 95% Design

If FNI's services are delayed through no fault of FNI, FNI shall be entitled to adjust contract schedule consistent with the number of days of delay. These delays may include but are not limited to delays in Owner or regulatory reviews, delays on the flow of information to be provided to FNI, governmental approvals, etc. These delays may result in an adjustment to compensation as outlined on the face of this Agreement and in Attachment CO.

ARTICLE V

RESPONSIBILITIES OF Owner: Owner shall perform the following in a timely manner so as not to delay the services of FNI:

- A. Owner recognizes and expects that certain Change Orders may be required. Unless noted otherwise, the Owner shall budget a minimum of 5% for new construction and a minimum of 10% for construction that includes refurbishing existing structures.

Further, Owner recognizes and expects that certain Change Orders may be required to be issued as the result in whole or part of imprecision, incompleteness, errors, omission, ambiguities, or inconsistencies in the Drawings, Specifications, and other design documentation furnished by Engineer or in the other professional services performed or furnished by Engineer under this Agreement ("Covered Change Orders"). Accordingly, Owner agrees to pay for Change Orders and otherwise to make no claim directly or indirectly against Engineer on the basis of professional negligence, breach of contract, or otherwise with respect to the costs of approved Covered Change Orders unless the aggregate costs of all such approved Covered Change Orders exceed 2% for new construction and 4% for reconstruction. Any responsibility of Engineer for the costs of Covered Changed Orders in excess of such percentage will be determined on the basis of applicable contractual obligations and professional liability standards. For purposes of this paragraph, the cost of Covered Change Orders will not include:

- any costs that Owner would have incurred if the Covered Change Order work had been included originally in the Contract Documents and without any other error or omission of Engineer related thereto,
- Any costs that are due to unforeseen site conditions, or
- Any costs that are due to changes made by the Owner.
- Any costs that are due to the Contractor

Nothing in this provision creates a presumption that, or changes the professional liability standard for determining if, Engineer is liable for the cost of Covered Change Orders in excess of the percent of Construction Cost stated above or for any other Change Order. Wherever used in this document, the term Engineer includes Engineer's officers, directors, partners, employees, agents, and Engineers Consultants.

- B. Designate in writing a person to act as Owner's representative with respect to the services to be rendered under this Agreement. Such person shall have contract authority to transmit instructions, receive information, interpret and define Owner's policies and decisions with respect to FNI's services for the Project.
- C. Provide all criteria and full information as to Owner's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which Owner will require to be included in the drawings and specifications.
- D. Assist FNI by placing at FNI's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project.
- E. Arrange for access to and make all provisions for FNI to enter upon public and private property as required for FNI to perform services under this Agreement.
- F. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by FNI, obtain advice of an attorney, insurance counselor and other consultants as Owner deems appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of FNI.
- G. Furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project. Pay all fees for permit applications.
- H. Owner shall make or arrange to have made all subsurface investigations, including but not limited to borings, test pits, soil resistivity surveys, and other subsurface explorations. Owner shall also make or arrange to have made the interpretations of data and reports resulting from such investigations. All costs associated with such investigations shall be paid by Owner.
- I. Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, such legal services as Owner may require or FNI may reasonably request with regard to legal issues pertaining to the Project including any that may be raised by Contractor(s), such auditing service as Owner may require to ascertain how or for what purpose any Contractor has used the moneys paid under the construction contract, and such inspection services as Owner may require to ascertain that Contractor(s) are complying with any law, rule, regulation, ordinance, code or order applicable to their furnishing and performing the work.
- J. Owner shall determine, prior to receipt of construction bid, if FNI is to furnish Resident Project Representative service so the Bidders can be informed.

- K. If Owner designates a person to serve in the capacity of Resident Project Representative who is not FNI or FNI's agent or employee, the duties, responsibilities and limitations of authority of such Resident Project Representative(s) will be set forth in an Attachment attached to and made a part of this Agreement before the Construction Phase of the Project begins. Said attachment shall also set forth appropriate modifications of the Construction Phase services as defined in Attachment SC, Article I, together with such adjustment of compensation as appropriate.
- L. Attend the pre-bid conference, bid opening, preconstruction conferences, construction progress and other job related meetings and substantial completion inspections and final payment inspections.
- M. Give prompt written notice to FNI whenever Owner observes or otherwise becomes aware of any development that affects the scope or timing of FNI's services, or any defect or nonconformance of the work of any Contractor.
- N. Furnish, or direct FNI to provide, Additional Services as stipulated in Attachment SC, Article III of this Agreement or other services as required.
- O. Bear all costs incident to compliance with the requirements of this Article V.

ARTICLE VI

DESIGNATED REPRESENTATIVES: FNI and Owner designate the following representatives:

Owner's Designated Representative –

Owner's Accounting Representative –

FNI's Designated Representative – Lewis Bernard, PE

FNI's Accounting Representative – Kristina Isaac

ATTACHMENT CO

COMPENSATION

Compensation to FNI for Basic Services in Attachment SC shall be the lump sum of Two Hundred Six Thousand Seven Hundred Seventy Three Dollars (\$206,773).

Compensation to FNI for Special Services in Attachment SC shall be computed on the basis of the following Schedule of Charges, but shall not exceed Nineteen Thousand Four Hundred Forty Four Dollars (\$19,444).

If FNI sees the Scope of Services changing so that Additional Services are needed, including but not limited to those services described as Additional Services in Attachment SC, FNI will notify OWNER for OWNER's approval before proceeding. Additional Services shall be computed based on the following Schedule of Charges.

<u>Position</u>	<u>Hourly Rate</u>	
	<u>Min</u>	<u>Max</u>
Professional 1	68	127
Professional 2	86	135
Professional 3	105	195
Professional 4	131	209
Professional 5	159	300
Professional 6	169	342
Construction Manager 1	76	151
Construction Manager 2	93	163
Construction Manager 3	143	192
Construction Manager 4	176	248
CAD Technician/Designer 1	61	126
CAD Technician/Designer 2	89	136
CAD Technician/Designer 3	114	179
Corporate Project Support 1	45	108
Corporate Project Support 2	63	150
Corporate Project Support 3	90	228
Intern / Coop	36	92

Rates for In-House Services and Equipment

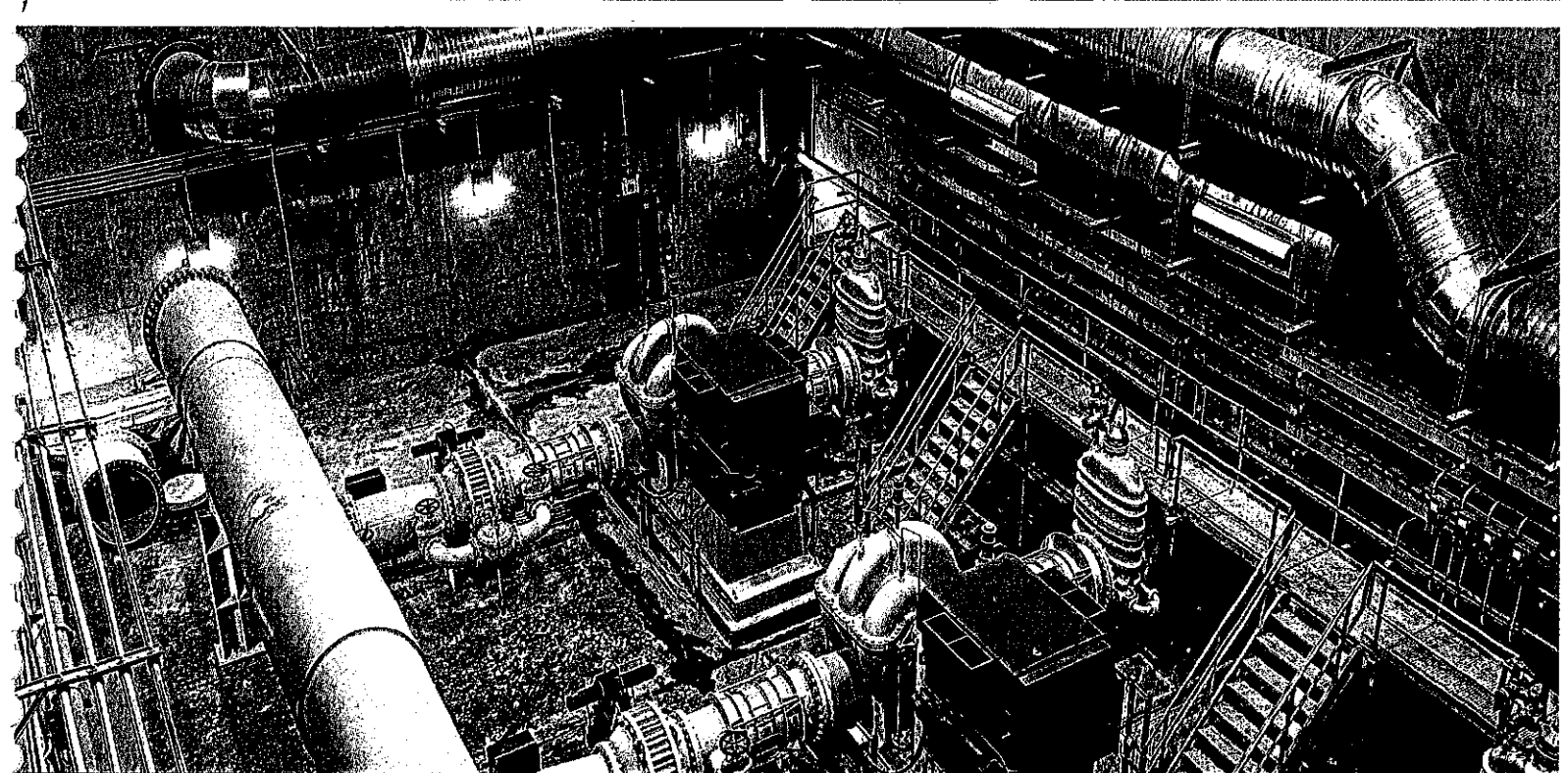
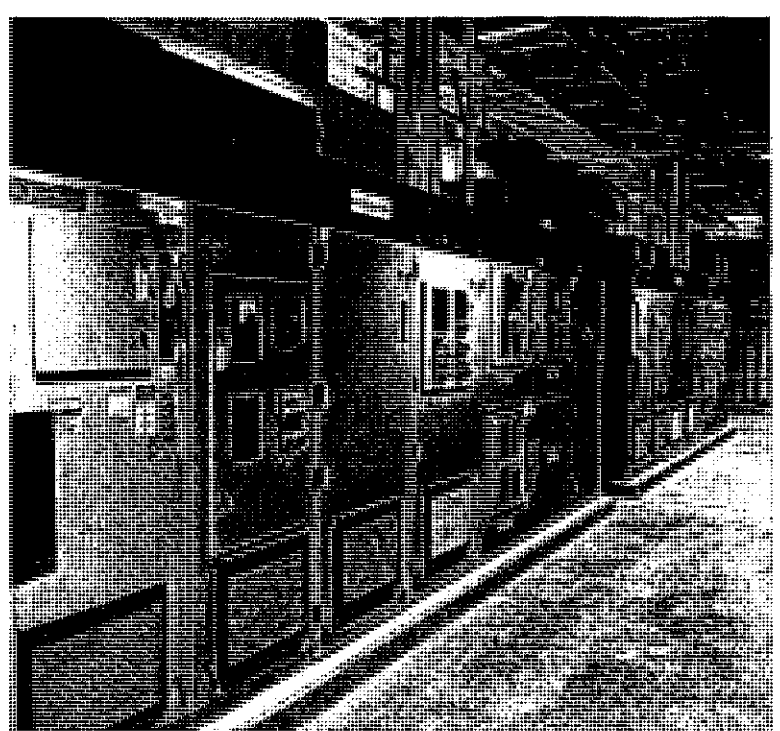
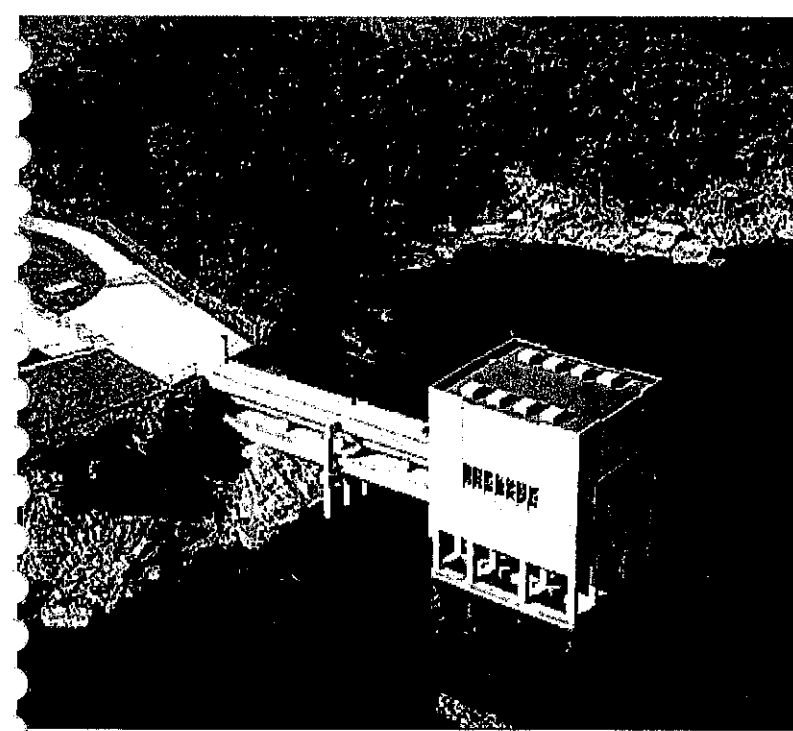
<u>Mileage</u>	<u>Bulk Printing and Reproduction</u>		<u>Equipment</u>	
Standard IRS Rates			Valve Crew Vehicle (hour)	\$75
	Small Format (per copy)	\$0.10	Pressure Data Logger (each)	\$200
	Large Format (per sq. ft.)		Water Quality Meter (per day)	\$100
	Bond	\$0.25	Microscope (each)	\$150
	Glossy / Mylar	\$0.75	Pressure Recorder (per day)	\$100
	Vinyl / Adhesive	\$1.50	Ultrasonic Thickness Gauge (per day)	\$275
			Coating Inspection Kit (per day)	\$275
	Mounting (per sq. ft.)	\$2.00	Flushing / Cfactor (each)	\$500
	Binding (per binding)	\$0.25	Backpack Electrofisher (each)	\$1,000
			<u>Survey Grade</u>	<u>Standard</u>
			Drone (per day)	\$200
			GPS (per day)	\$150
				\$50

OTHER DIRECT EXPENSES:

Other direct expenses are reimbursed at actual cost times a multiplier of 1.05. They include outside printing and reproduction expense, communication expense, travel, transportation and subsistence away from the FNI office. For other miscellaneous expenses directly related to the work, including costs of laboratory analysis, test, and other work required to be done by independent persons other than staff members, these services will be billed at a cost times a multiplier of 1.00. For Resident Representative services performed by non-FNI employees and CAD services performed In-house by non-FNI employees where FNI provides workspace and equipment to perform such services, these services will be billed at cost times a multiplier of 2.0. This markup approximates the cost to FNI if an FNI employee was performing the same or similar services.

These ranges and/or rates will be adjusted annually in February. Last updated 2021.

ATTACHMENT A



STATEMENT OF QUALIFICATIONS

JEFFERSON COUNTY

Professional Engineering Services for Drainage
Improvements Crane Bayou Pump Station Building
and Generators | RFQ 21-015/JW

July 21, 2021





10497 Town and Country Way, Suite 500; Houston, Texas 77024 • 713-600-6800 • fax 817-735-7491

ATTACHMENT A: PAGE A.2 of 196

July 21, 2021

Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, TX 77701
Attention: Deborah Clark, Purchasing Agent

RE: Professional Engineering Services for Drainage Improvements: Crane Bayou Pump Station Building and Generators (Community Development Block Grant - Disaster Recovery) Program Project for Jefferson County RFQ 21-015/JW

Dear Ms. Clark:

We would like to congratulate Jefferson County in obtaining a CDBG-DR grant for adding generators at Drainage District No. 7's Crane Bayou Pump Station. Freese and Nichols, Inc. (FNI) has the experience and expertise to deliver this project for DD7 (DD7). We appreciate the opportunity to respond to this request for qualifications. In this proposal, we have detailed many reasons why the FNI team is the ideal choice for this project, including:

Full-Service Firm – FNI is a full-service, multi-discipline firm with experts in civil, mechanical, structural and electrical engineering. Our menu of services is fully integrated across our disciplines to deliver projects effectively and efficiently.

Pump Station and Generator Experience – FNI has designed more pump stations than any other firm in Texas. In the past 10 years alone, FNI has designed more than 5.9 billion gallons per day in pump station capacity. This experience includes 30 new pump stations and 45 pump station rehabilitations, including electrical design of power and back-up power systems.

CDBG Experience – FNI understands the growing demands on our client's budgets. FNI has experience in securing and delivering state and federal funding for infrastructure related projects, helping our clients obtain more than \$1.5 billion in state and federal funding in the last 10 years. We are currently executing CDBG projects for the City of Freeport, City of Beaumont and Chambers County.

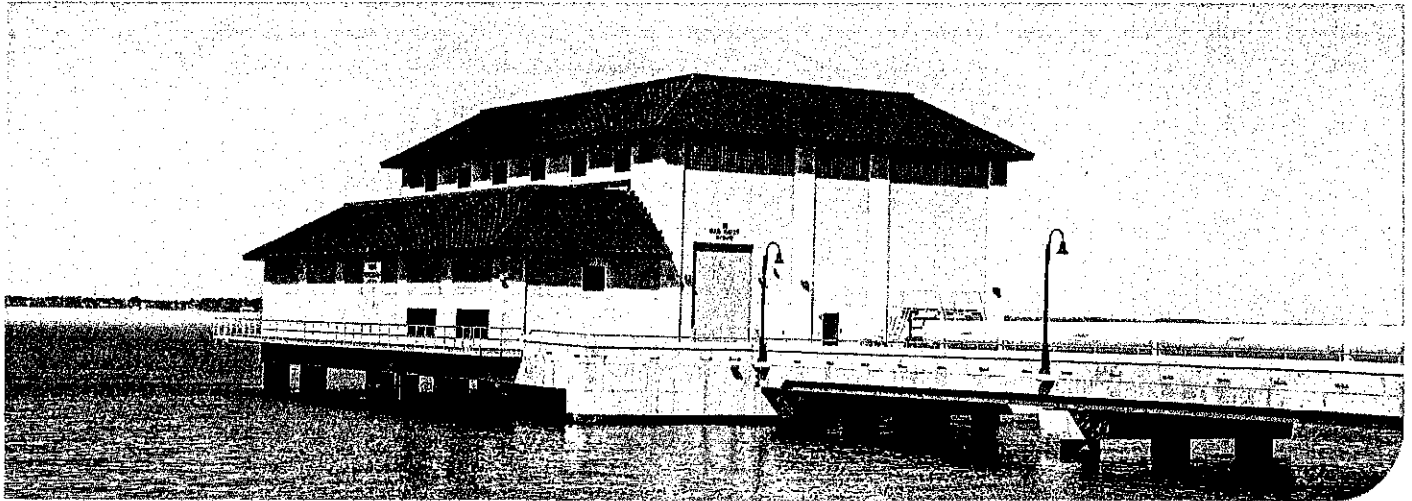
Best Value Approach – Our mission statement is *Innovative Approaches... Practical Results... Outstanding Service*. We are committed to providing a high-quality project with a focus on customer service. We have provided a qualified team of engineers that is right sized to efficiently deliver this project in the required schedule.

Our primary focus remains being a trusted advisor to our clients. More than 90 percent of our business comes from repeat clients. We attribute this to our focus on building long-term, mutually beneficial relationships with our clients, by not only helping them with their current projects, but with planning and visioning for their organization's future needs. We strive to be a trusted advisor who will work as part of your team to accomplish the goals that matter most to you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alan Hutson'.

Alan Hutson, PE
Vice President/Principal
713-600-6847 | alan.hutson@freese.com



Lake Conroe Raw Water Intake and Pump Station

TABLE OF CONTENTS

1. Firm History	Page 3
2. Project Understanding	Page 4
3. Relevant Experience	Page 6
4. Project Team and Resources	Page 14
5. Capacity to Perform	Page 24
6. Licenses, Insurance and Litigation	Page 25

Appendix

Full specifications with forms filled out



1. FIRM HISTORY

FNI is a client-focused, regionally based firm with national expertise. We plan, design and manage infrastructure projects with our broad range of services. From 24 offices across the Southeast U.S., including 14 in Texas, we work seamlessly together across all disciplines, giving our clients the benefit of multiservice integration with an approach that is as innovative as it is practical. Together, our more than 950 professionals deliver top-tier professional services that reflect the *FNI vision — to be the firm of choice for clients and employees.*

FNI was founded in 1894 when founder John Hawley became one of the state's first independent water and sewer engineers. Since then, FNI has developed a specialization in municipalities and water districts, with an extensive range of expertise and innovative solutions to solve critical infrastructure issues. We have provided planning, design and construction management of waterworks projects for a wide range of municipalities and special districts with populations ranging from 2,000 to more than 1 million.

Focus on Customer Service

More than 80 percent of our business comes from repeat clients. We attribute this to our focus on building long-term, mutually beneficial relationships with our clients by helping them not only with their current projects but with planning and visioning for their community's future needs. We strive to be a trusted advisor, who will work as part of the County's team to accomplish the goals that matter most to Jefferson County DD7.

Our Commitment to Quality

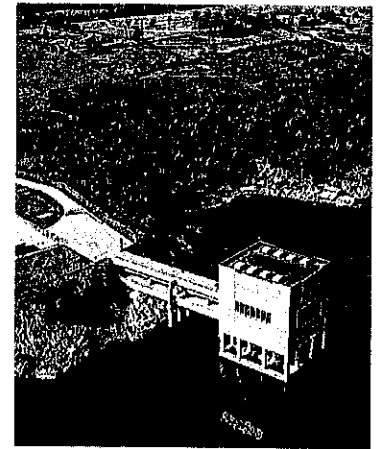
The FNI culture upholds high-performance strategies for achieving quality with an evolving set of systems and procedures that help us communicate effectively with our clients and each other. We are continuously building on this knowledge and raising the bar. We are the first engineering and architecture firm ever to receive the Malcolm Baldrige National Quality Award. The Baldrige award is the nation's highest presidential honor for performance excellence through innovation, improvement and visionary leadership.

We are Multidiscipline

We are a multidiscipline firm whose primary focus remains being a trusted advisor to our clients. Whether we are providing strategic urban planning, funding assistance or full design, documentation and construction services, what drives our work is the alignment with clients' institutional goals. All FNI offices are linked through the latest technology and knowledge databases. Our menu of services is fully integrated across all our disciplines to deliver projects effectively and to verify that each project receives the benefit of the specific knowledge of every professional within our organization. Our goal is to capture the full creativity, innovation and technical proficiency of every team member regardless of office or project location.

Experience Working with Relevant Agencies

We have included a listing of relevant agency clients in section 3 on page 13.



Name of Firm

Freese and Nichols, Inc.

Firm's Local Office

10497 Town and Country
Way
Suite 500
Houston, Texas 77024

Firm's Corporate Office

801 Cherry St.
Suite 2800
Fort Worth, Texas 76102

Number of Years in Business

127

Contact Person

- *Authorized to negotiate for and contractually bind the firm*
- *Responsible for addressing questions generated during the evaluation process*

Alan Hutson, PE, ENV SP
Vice President/Principal
10497 Town and Country
Way; Suite 500
Houston, Texas 77024
713-600-6847

2. PROJECT UNDERSTANDING

UNDERSTANDING OF SERVICES REQUIRED

FNI understands that DD7 received a grant to install two new generators at the Crane Bayou Storm Water Pump Station on the east side of Port Arthur. The generators will be housed in a hurricane-proof building and will support small pumps and house loads for the stormwater pump station.

FNI will provide a small project team with specific experience in the design and rehabilitation of storm water pump stations. Our project manager, Lewis Bernard, has 14-years of experience in the design, rehabilitation and expansion of storm water pump stations along the Gulf Coast. Lewis is a mechanical engineer by trade and will oversee the FNI team and be the main point-of-contact for the County. Lewis has experience designing seven stormwater pump stations in the New Orleans area after Hurricane Rita and understands the critical nature of stormwater pump stations during a flood event. He will oversee the electrical, structural and mechanical team designing the project and will coordinate with geotechnical and survey subconsultants.

Rebecca Sandoval is an electrical engineer specializing in pump station design with 18 years of experience. She manages the pump station electrical design team at FNI. Rebecca will coordinate with DD7 to determine the expected loads for the new generators, determine the generator size, and work with generator suppliers on layouts and features in order to layout the building requirements. She will design the automatic transfer switch (ATS) that will allow the generators to kick-in when utility power is unavailable.

Peter Bartels will provide the structural design for the project. Peter is a structural engineer for FNI with more than 20 years' of experience and has been involved with most of FNI's pump station designs over the last 20 years. Peter will be responsible for the building slab and foundation support and will specify the pre-fab building for the project.

Van Cashen will provide mechanical design for the project, specifying the wall mounted air conditioning units and exhaust fans for the generator building as well as the fuel pumps to feed diesel to the generators.

Resumes for the FNI team may be found on page 15. This team has worked together for many years delivering both large projects as well as smaller rehab jobs and generator additions for clients all over the State of Texas.

FNI'S UNIQUE QUALIFICATIONS TO PROVIDED SERVICES TO JEFFERSON COUNTY

FNI is uniquely qualified to provide professional engineering services to Jefferson County because of our history of successful project completion in the Golden Triangle.

- FNI has been the water supply engineer for the City of Beaumont for over 50 years. We designed the City's surface water treatment plant and the pump station and pipeline to deliver water to the plant. We are currently working on disaster recovery projects to improve the reliability of the

LEADER IN WATER PUMPING AND STORAGE

FNI has designed more pump stations than any other consulting firm in Texas. In the past 10 years alone, FNI has designed more than 4,105,000 GPM (5,900 MGD) in pump station capacity.

This experience includes 45 pump station rehabilitation projects as well as design of 30 new pump stations ranging in size from 50- to 560-MGD, and involves intake pump stations, variable frequency drives (VFDs), backup power and chemical facilities.

FNI has won numerous state and national awards for engineering excellence on water pumping projects, including:

ASCE Texas Section: Outstanding Civil Engineering Achievement Award

- Ward County Water Supply Project
- O.H. Ivie Water Supply Project
- Benbrook Connection Project

ASCE: National Outstanding Civil Engineering Achievement Award Nomination

- Ward County Water Supply Project
- O.H. Ivie Water Supply Project

Texas CEC: Gold Medal for Engineering Excellence

- Eagle Mountain Connection
- Lake Texoma-to-Wylie Connection

plant, pump stations and pipelines with construction expected to begin later this year.

- FNI has provided decades of service to the Lower Neches Valley Authority (LNVA). FNI designed several pump stations for the Authority in the 1950s and we are currently working with LNVA to replace their Dever's pump station that supplies water for industry and agriculture in Jefferson County.
- FNI has been the engineer-of-record for the Sabine Water Authority for the last 40 years. We have designed several of their water supply reservoirs and continue to inspect, maintain and rehab and their dam and gate structures. FNI recently completed a new raw-water pump station on the Sabine River that serves industry in neighboring Orange County. This project was financed through a SWIFT loan with the Texas Water Development Board (TWDB).
- FNI recently competed design for expansion of the Port Arthur Main WWTP. The project has an estimated cost of \$65M and will be bid this year. FNI helped the City secure grant and loan funding from the TWDB through the SRF program.
- FNI is currently on a team of consultants working on the Sabine-to-Galveston levee project. This work has provided us the opportunity to meet with the various stakeholders in Jefferson County, including DD7.

As described above, FNI has a long history serving the citizen of Jefferson County. This experience gives FNI first-hand knowledge of the drainage basins, levee systems, soils, weather patterns, power providers and contractor pool that make working in Jefferson County unique.

In 2019, FNI decided to build on this long history of service by opening an office in Jefferson County on the Lamar Institute of Technology campus in Beaumont. This office space allows FNI to continue to serve clients and build relationships in Jefferson County.

UNDERSTANDING CDBG-DR ENGINEERING SERVICES

FNI has decades of success securing funds for clients through federal grant programs, such as those administered by FEMA, HUD and FHWA. We've helped numerous clients navigate programs, such as Public Assistance (PA), Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), Community Development Block Grant (CDBG) and the Better Utilizing Investments to Leverage Development (BUILD) grant programs, to name a few.

Federal grants often carry a heavy requirements burden, and FNI has both the expertise and skill to customize projects to meet program specifics. This requires attention to the following tasks to maximize the grant benefit, while minimizing schedule delays and verifying clients remain in compliance:

- Scoping to maximize the award
- Compliant invoicing
- Regular and special reporting
- Federal NEPA environmental and 2 CFR 200 procurement processes
- Award-winning designs
- Construction management
- Overseeing project close-out

FNI also partners cooperatively with grant administration firms when necessary or required to meet program mandates or to help position clients for success in securing awards.

Jefferson County has expressed wanting to know about our firms experience with Municipal construction, Federally funded construction and experience in the general region of the state. Below are icons that will easily identify what projects and people will demonstrate our experience in these areas.



Municipal Construction

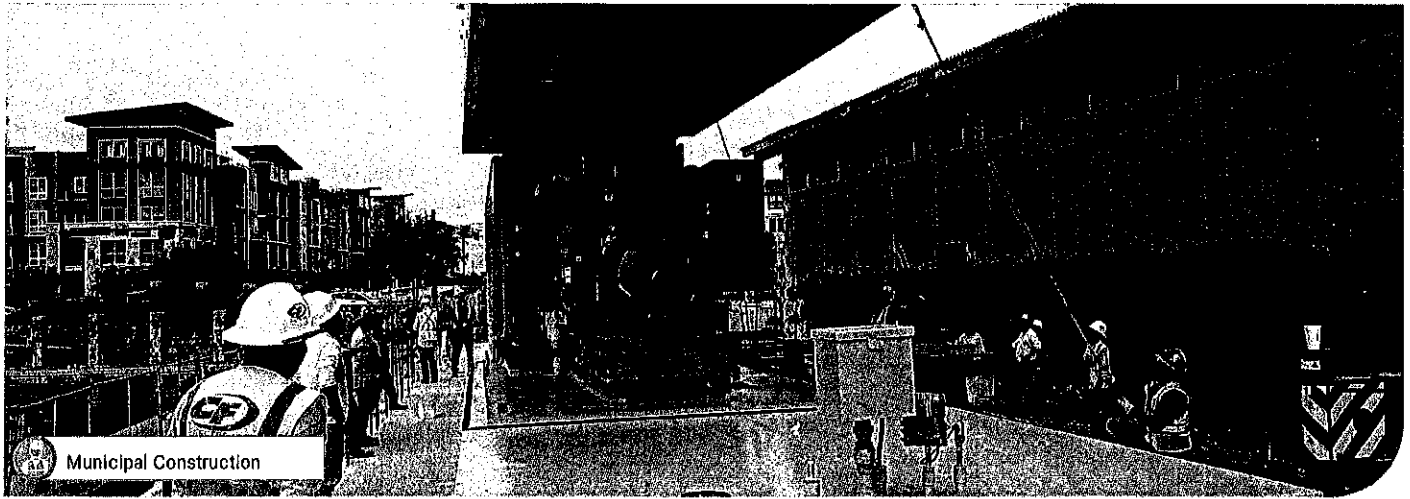


Federally Funded Construction



General Region Experience

3. RELEVANT EXPERIENCE



Mike Streeter Pump Station Emergency Generator Improvements | Dallas County Utility and Reclamation District

FNI provided design and construction phase services to replace the 4160V switchgear and motor control center at the Mike Streeter Stormwater Pump Station. Improvements included the installation of two 2750 kW, 4160V diesel-driven emergency back-up generators, new 4160V paralleling switchgear, new 4160V motor control centers, new 480V switchboard, new low-voltage electrical distribution equipment, new energy-efficient LED indoor and outdoor lighting and a new SCADA system. FNI designed the switchgear to automatically switch from utility power to generator power upon a power outage, and back to utility power after the utility source stabilizes. FNI also performed factory witness testing on the major electrical equipment components.

FNI modified the pump station's electrical system, including improvements to starters for the existing pumps and motors and additional emergency back-up power generation. As part of the preliminary design for the backup power for the pump station, FNI evaluated options for the locations for the generators and identified necessary improvements required for the project.

The pump station's site configuration presented unique challenges for installing the improvements. The pump station is land locked with a lake on one side, apartments on two other sides and a roadway with a DART line in front, encumbering installation of two large generators and a new electrical building.

FNI worked closely with Dallas County Utility and Reclamation District (DCURD) and equipment suppliers during the evaluation and design to ensure serviceability and construction. Cost estimates determined efficient options to use existing equipment while still meeting the requirements of DCURD.

Additional services included landscape architecture and geotechnical engineering. FNI is currently performing general representative construction phase services, conducting monthly construction progress meetings, reviewing shop drawings and answering RFIs during construction.

Location

Irving, Texas

Dates

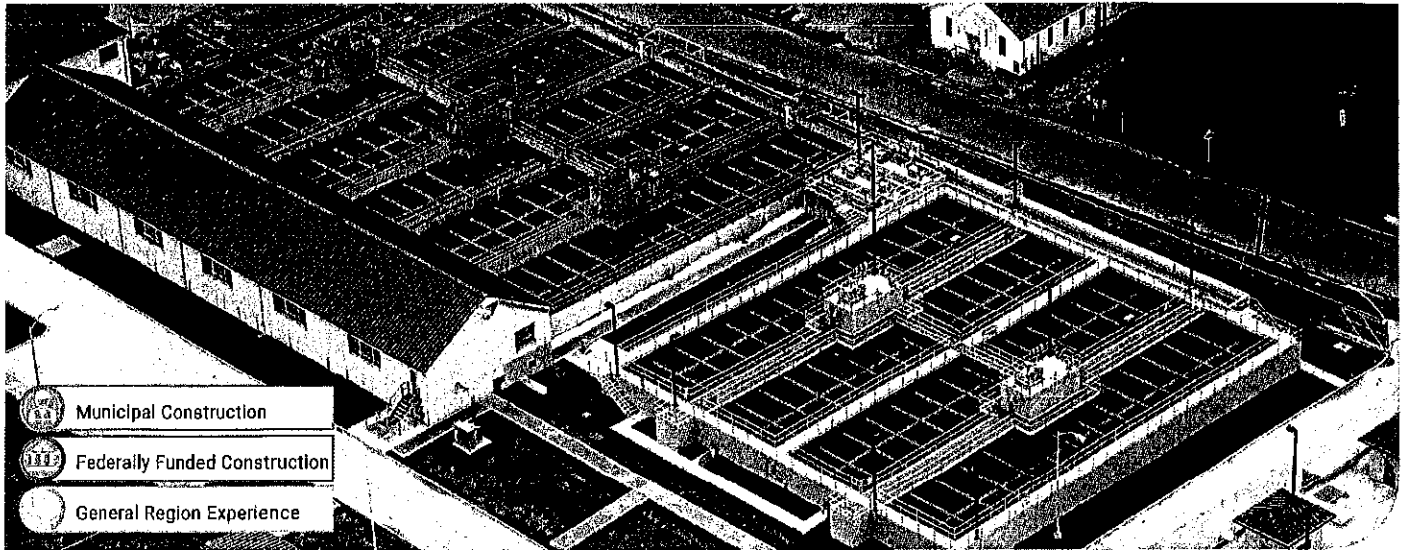
2017 - Ongoing

Reference

Tim Benefiel
Operations Supervisor
972-556-0625
tbenefiel@dcurd.org

PROJECT RELEVANCY

- Architecture
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Structural Engineering
- Cost Estimating
- Bid Phase Services
- Construction Phase Services
- Major Equipment Witness Testing
- Geotechnical and Geological Coordination (via subconsultants)



Flood Protection Improvements | City of Beaumont

FNI is working with the City of Beaumont to design flood protection improvements at the 40-MGD Surface Water Treatment Plant (SWTP) and Lawson's Pump Station. The improvements will be broken into seven projects to align with possible funding by FEMA or other sources:

Flood Protection Improvements at SWTP Electrical Building – FNI designed improvements at the electrical building located at the Pine Street SWTP to keep flooding out of the electrical building.

Chemical Storage Tank Capacity Expansion at SWTP – FNI designed improvements to expand the chemical tank storage capacity of sodium chlorite, sodium hydroxide and orthophosphate to 30 days.

Chemical System Improvements at SWTP – FNI designed improvements at the Pine Street SWTP chemical building, including second chlorinator, polymer chemical system and ammonia day tank.

Enhanced Flood Protection at Lawson's Pump Station – FNI evaluated alternatives and design improvements for flood proofing at Lawson's Pump Station. The evaluation compared improvements to the existing facility to a new pump station that is accessible during flood events.

New Pine Street Raw Water Pipeline – FNI evaluated alternatives to rehabilitate or replace Lawson's Canal Raw Water Pipeline to restore the pipeline's capacity and make it easier to access and maintain versus replacing the pipeline with a new line down Pine Street. Design of a new 48-inch pipeline down Pine Street has commenced.

New Raw Water Pump Station – FNI is nearing completion of design for a new 45 MGD pump station that will be accessible during a flood event. The project includes an 8,000 LF, 48-inch microtunneled pipe, 4 submersible pumps, an electrical room and a new standby generator.

Technical Support for FEMA Funding Assistance – FNI evaluated alternatives to rehabilitate or replace both the 48-inch raw water line and Lawson's Pump Station. FNI prepared technical memos, cost estimates and coordinated with FEMA to assist the City's funding efforts.

Location

Beaumont, Texas

Dates

2018 - Present

Reference

Molly Villarreal, PE
Water Utilities Engineer
409-785-3016
molly.villarreal@beaumonttexas.gov

Reference Form included in the full specifications in the appendix

PROJECT RELEVANCY

- Pump Station Design
- Electrical Design
- Generator Design
- Federal DR Funding
- Structural Design



Pump Station Electrical Improvements and Emergency Backup Power | Irving Flood Control District No. 3

FNI provided design, bid and construction phase services for replacement of all electrical distribution equipment and emergency backup power for the Irving Flood Control District Section III Pump Station.

In Phase 1 of the project, FNI designed and installed two new Oncor-provided 2000 kVA pad-mounted transformers and a new 480V main-tie-main switchboard lineup to provide power redundancy to the pump station. During Phase 2, FNI added two emergency backup generators and associated 480V switchgear to supply power to the pump station in the event of a power outage. FNI also designed 480V motor control centers, panelboards and instrumentation. The new 1500 kW diesel generators run the entire pump station which consists of four 450 HP pumps and two 250 HP pumps.

The project automated pump station operations by connecting the generators to a new SCADA system, Programmable Logic Controller (PLC) cabinet and operator workstation. FNI also designed modifications to the existing SCADA system to accommodate the monitoring, control and alarms associated with the new permanent generators.

FNI worked closely with the Irving Flood Control District Section III and equipment suppliers during the evaluation, and prepared cost estimates for each option to determine the most efficient way to use the existing equipment while still meeting the requirements of Irving Flood Control District for the improvements.

Key Project Benefits

Construction sequencing was important during the construction phase of the project. The Owner required at least three of the six pumps to remain operational at all times.

Location

Irving, Texas

Dates

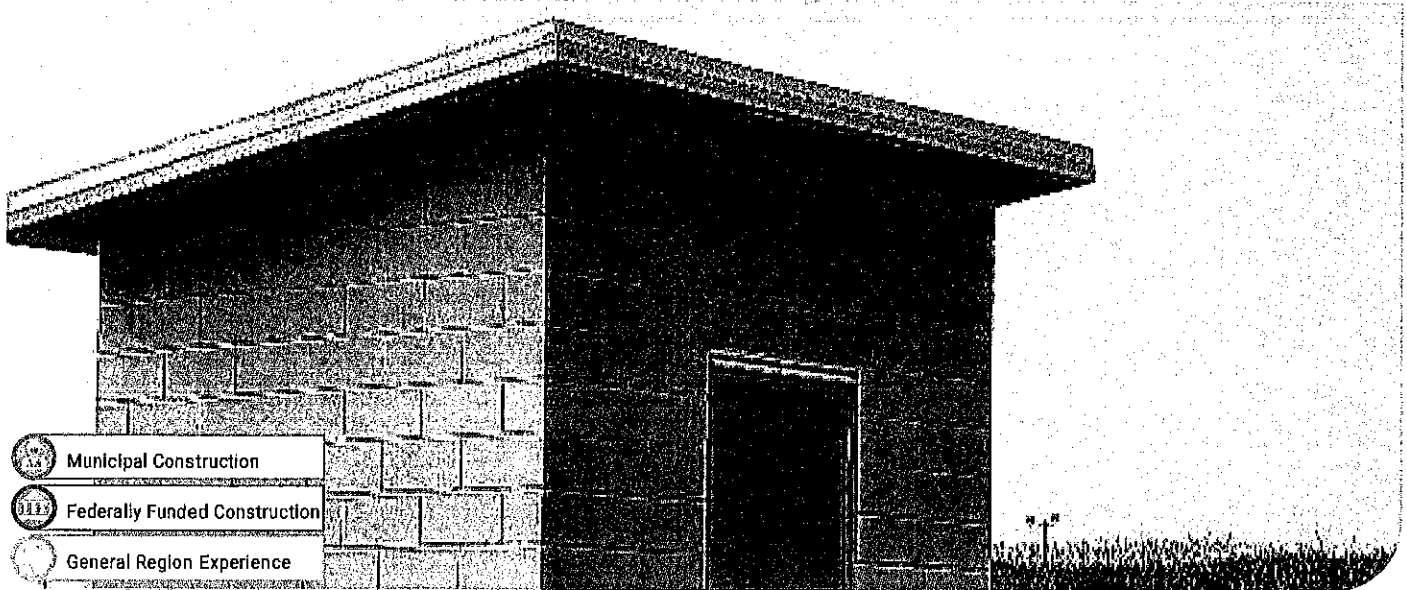
2010-2013

Reference

Tim Benefiel
Operations Supervisor
972-556-0625
tbenefiel@dcurd.org

PROJECT RELEVANCY

- Architecture
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Structural Engineering
- Cost Estimating
- Bid Phase Services
- Construction Phase Services
- Major Equipment Witness Testing
- Geotechnical and Geological Coordination (via subconsultants)



Stormwater Pump Station Assessment and Rehabilitation | City of Freeport

FNI provided electrical design for the City of Freeport electrical improvements of the Storm Water Pump Station located near the Public Works services building in the Vicinity of South Avenue A.

Preliminary services included a technical memorandum outlining the findings of a site inspection. Based on this report a final design scope of work was outlined along with an estimation of construction costs. Services provided during the final design phase included design and replacement of an Automatic Transfer Switch (ATS); design and replacement of a 150 AMP. circuit breaker; rewiring existing generator to a 4-pole system; perform Arc Flash hazard assessment; new air conditioning unit for electrical building; and installation of surge protection devices. The design also included Civil Work. A new CMU building was designed. A new pole for illumination and security fence was also designed. The old building will be demolished once the electrical work and power transfer is completed. Design involves coordination with The City of Freeport, the Contractor and FNI electrical and structural design team. Design was completed in December 2020. Work is expected to be completed by Mid-August 2021. Construction cost is \$180,000.

FNI's role as Freeport's City Engineer

Freeport hired FNI as their City Engineer in 2019 and as a part of that role FNI has performed many engineering duties from smaller tasks such as development reviews to very large projects such as a federally funded Wastewater Treatment Plant Replacement. FNI assisted the City in securing federal funding for this WWTP replacement as well as sanitary sewer rehabilitation. FNI has completed many task orders for projects such as lift station rehabilitation, sanitary sewer rehab, groundwater plant assessment and roadway improvements. FNI's partnership with Freeport to improve their existing infrastructure has grown over the years and is now beginning a new bond program to further improve their infrastructure.

Location

Freeport, Texas

Dates

2020-2021

Reference

Timothy Kelty
City Manager
979-233-3526
tkelty@freeport.tx.us

Reference Form included in the full specifications in the appendix

PROJECT RELEVANCY

- Pump Station Rehabilitation
- Electrical Improvements
- CDBG Funding
- Automatic Transfer Switch

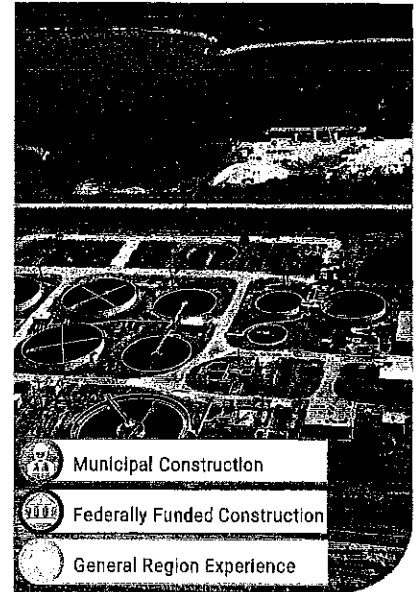
Port Arthur Main WWTP Improvements | City of Port Arthur

Like many cities, the City of Port Arthur was challenged with combating aging infrastructure at their oldest wastewater treatment facility, the 9.2-MGD Main Wastewater Treatment Plant (WWTP), while trying to find economical solutions that could maximize the value of their capital investments. FNI led the evaluation and design of major improvements that initially focused on the alternatives for replacement of the facility with an entirely new WWTP. Our services included preliminary engineering, environmental impact assessments, Texas Pollutant Discharge Elimination System (TPDES) permitting, Texas Water Development Board (TWDB) funding assistance, pilot testing, final design and bid phase services.

While FNI recognized that the City's desire for a new plant might have many benefits, we advised that reconstruction of the existing plant could be a viable and economical option. During the evaluation phase, FNI compared alternatives for building a new WWTP at a new site versus reconstruction of the existing WWTP. We conducted a condition assessment of the existing Main WWTP and off-site influent lift station to determine the rehabilitation necessary to provide long-term continued use of the existing facilities. Our assessment indicated that a significant number of the treatment units had exceeded their life expectancy and required replacement; however, some units, such as the trickling filters, aeration basins, aerobic digesters and chlorine contact basins, still had useful life remaining and could continue to be used long-term with reconstruction. Although reconstruction was not the alternative initially favored by the City, the resultant evaluation and cost savings associated with rehabilitation were very convincing. Based on the evaluation and resultant cost savings of more than \$20 million associated with reusing the existing infrastructure, the City selected the reconstruction alternative.

The reconstruction design included a new headworks facility, new primary clarifiers, rehabilitation and conversion of the trickling filters to single-stage service, rehabilitation of plant pumping systems, a new intermediate lift station, secondary clarifier rehab, disinfection system rehab, a new effluent pump station, new peak flow cloth disk filtration and rehabilitation of the existing solids handling facilities, including aerobic digesters and screw press dewatering systems. The total estimated construction cost for the plant reconstruction was \$60.5 million versus an estimated cost of \$83 million for a new facility, a \$23 million cost savings.

A major innovation on the project included the use of an innovative cloth media filtration system designed for peak flow treatment and wet weather blending. This unique pilot study and design explored the use of cloth media filters in multiple treatment configurations including primary, secondary, tertiary and wet weather applications. The pilot testing results clearly indicated that the cloth media filtration system was a viable technology, allowing for replacement of the City's existing peak wet weather treatment system that had experienced a structural failure. The wet weather filtration system reduces peak flows on the secondary activated sludge plant, thus reducing the size of these treatment processes. This approach saved up to an additional \$20 million in aeration and secondary treatment expansion that would otherwise have been required for traditional treatment.



Location

Port Arthur, Texas

Dates

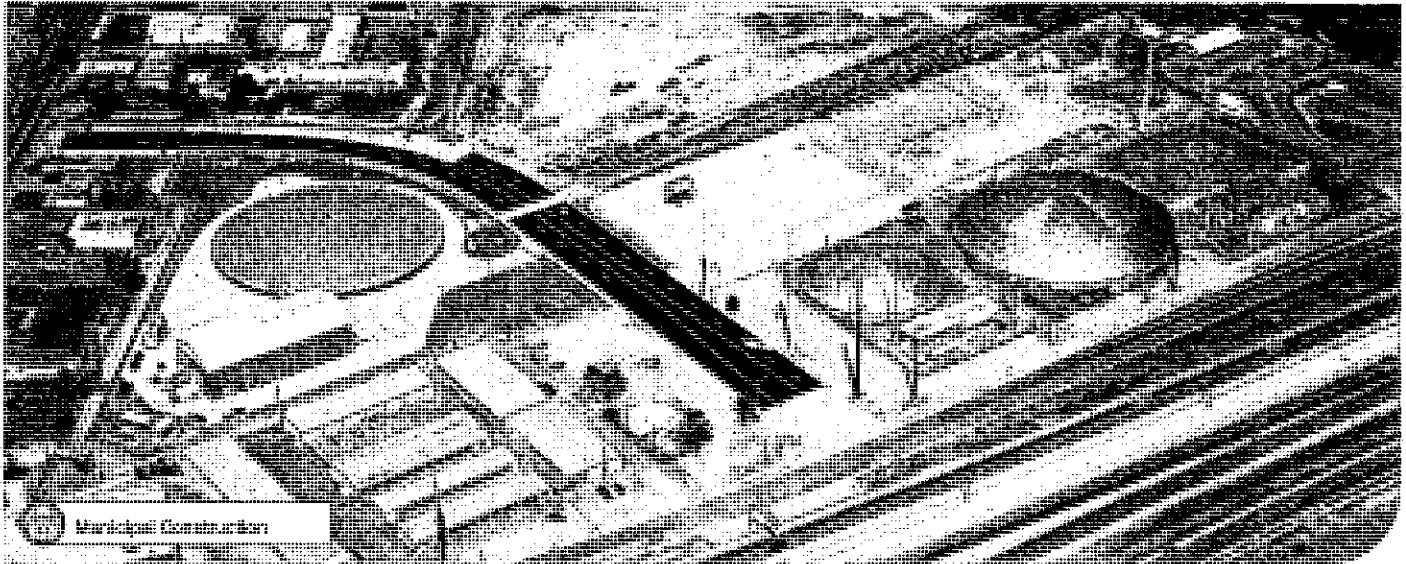
2020-2021

Reference

Donald Stanton
Interim Director of Utilities
409-983-8100
donald.stanton@portarthur.gov

PROJECT RELEVANCY

- Structural
- Electrical Mechanical
- Generators
- Federal Funding
- Maintain Operations During Construction



Pump Station 16 and Storage Tank | City of Lubbock

FNI designed the City of Lubbock's new pump station 16 and ground storage tank, which replaced pump station 7, as the hub of the City's distribution system. The City's pump station 7 was the primary pump station in their water distribution system. It was built in 1958 and was nearing the end of its service life. The City desired to keep pump station 7 in service during construction. Pump station 16 was designed for an ultimate capacity of 50 MGD, and the tank was designed to store 8 MG, which is 1 MG more than PS 7 stored.

Knowledge of current and future system conditions from the City's water model helped FNI determine that pump station 16 could be constructed initially with three pumps, with plans to add two more in the future when demands increased. This saved the City money on equipment upfront and provided flexibility in the future to add pumping capacity when needed.

Maximizing the tank storage at this site was critical because the high flow rate reduced the response time to changes in the system. The pressure in the supply pipeline and the size of the site posed challenges to making the tank large enough. FNI proposed partially burying the tank and building it before the pump station to efficiently lay out the site and still meet the proposed schedule.

Since the tank was partially buried, FNI designed the pump station to use vertical turbine pumps that allowed the entire volume of the tank to be pumped. The pumps were ultimately able to pump between 10- and 50-MGD while operating in their allowable operating range, which is key to extending pump life.

FNI also provided general and resident representation during the construction phase of pump station 16. Pump station 16 experienced a smooth and successful start-up, during which City personnel operated the pump station remotely from initial activation.

FNI also provided supervisory control and data acquisition (SCADA) system design for the pump station to control and maintain efficiency and communicate system issues to help mitigate downtime. Pump station 16 is equipped with a control room that houses a remote terminal unit (RTU) to monitor and control field devices and communicate with the City's main control.

Key Project Benefits

FNI provided an efficient and innovative design by working with the City to identify a nearby site that could host a replacement pump station and oversaw construction. The project was on-time and under budget for design and construction.

Location

Lubbock, Texas

Dates

2014-2018

Reference

John Turpin, PE
Assistant City Engineer/Capital
Projects and Design
409-920-0430
dturpin@mail.ci.lubbock.tx.us

*Reference Form included in
the full specifications in the
appendix*

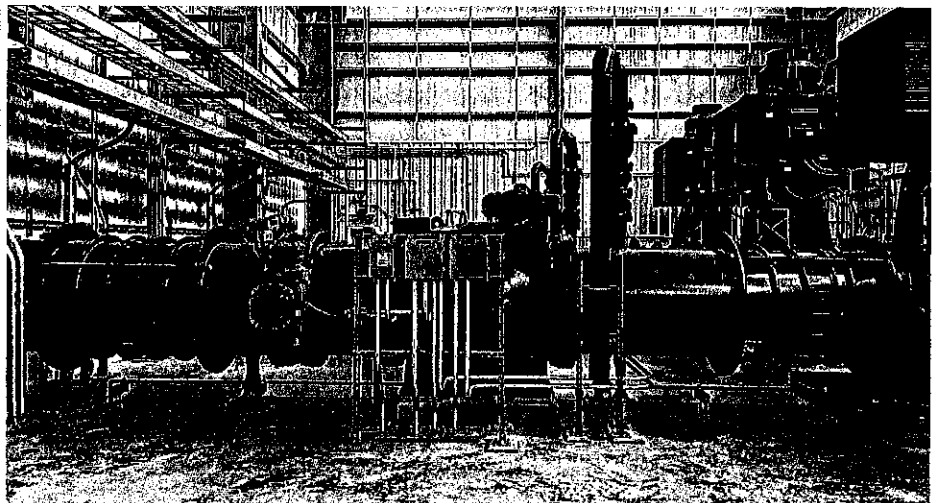
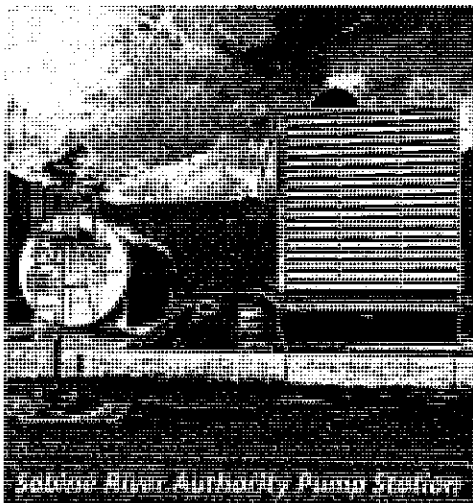
PROJECT RELEVANCY

- High-Profile Site
- Pump Type – Vertical Turbine Pumps (VTP)
- Inlet Control Valve
- Maintained Operation During Construction
- Stakeholder Collaboration
- Electrical Design for Hydraulic Flexibility

ADDITIONAL RELEVANT EXPERIENCE

FNI PUMP STATION GENERATOR PROJECTS SINCE 2013

PROJECT	CLIENT	YEAR	GENERATOR SIZE
Lake Ralph Hall Raw Water Pump Station	Upper Trinity Regional Water District	2021	2-2000 kW (under design)
Wylie WTP Generator Study	North Texas Municipal Water District	2021	Various sizes ranging from 500 kW to 11MW (study)
Leonard WTP High Service Pump Station	North Texas Municipal Water District	2021	1- 3500 kW (under construction)
Sabine River Pump Station	Sabine River Authority	2021	1- 1250 kW (under construction)
Mike Streeter Pump Station Generator Improvements	Dallas County Utility and Reclamation District	2021	2 - 2750 kW (under construction)
Lower Bois D'Arc Creek Reservoir Raw Water Pump Station	North Texas Municipal Water District	2018	1- 1500 kW (under construction)
Alta Vista Pump Station Expansion	City of Keller	2018	1 - 800 kW
Redbud Pump Station	City of McKinney	2018	1- 1250 kW
Pump Station No.16	City of Lubbock	2017	1 - 1750 kW
Phase 2 Emergency Back-up Power	Irving, Flood Control Section III	2016	2 - 1500 kW
Pump Stations No.4 & No.8 Emergency Generators	City of Lubbock	2015	1 - 1750 kW (PS No.4), 1 - 1750 kW (PS No.8)
Wylie WTP Power System Study	North Texas Municipal Water District	2015	7 - 2500 kW (study)
Lake Arlington Raw Water Pump Station	City of Arlington	2014	1 - 900 kW (reconnection)
Danforth Pump Station	City of Edmond, Ok	2013	1 - 450 kW
Custer Road Pump Station Improvements	City of Prosper	2013	1 - 1000 kW

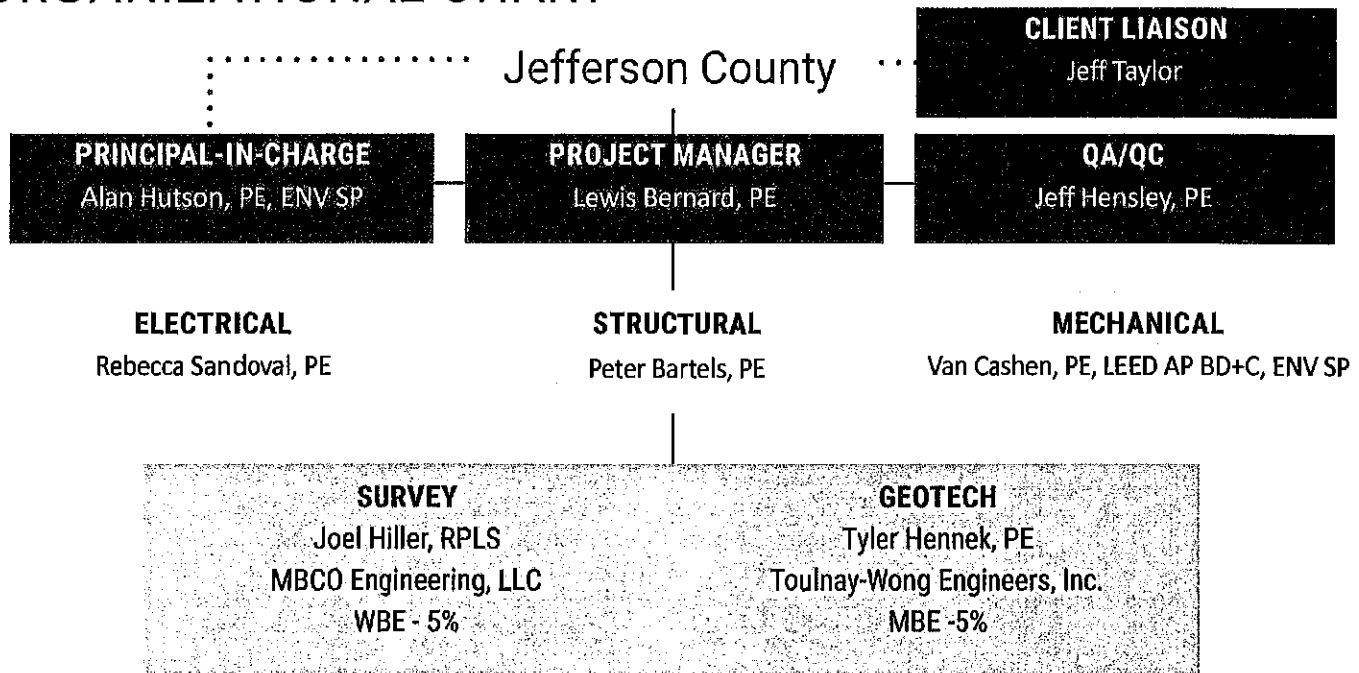


PAST RELEVANT AGENCY CLIENTS

CLIENT	FLOOD/ DRAINAGE	WATER	WASTEWATER	CONSTRUCTION MANAGEMENT
Bacliff MUD		✓	✓	✓
Brazoria County	✓			
City of Alvin		✓	✓	✓
City of Baytown	✓			
City of Beaumont	✓	✓	✓	✓
City of College Station	✓	✓	✓	✓
City of Conroe		✓	✓	
City of Corpus Christi	✓	✓	✓	✓
City of Friendswood	✓	✓		✓
City of Fulshear		✓	✓	
City of Galveston	✓	✓	✓	✓
City of Huntsville		✓	✓	✓
City of Houston	✓	✓	✓	✓
City of Lake Jackson	✓			
City of League City	✓	✓	✓	✓
City of Manvel		✓	✓	✓
City of Missouri City	✓		✓	✓
City of Pearland	✓	✓	✓	✓
City of Port Arthur	✓	✓	✓	
City of San Marcos	✓	✓	✓	✓
City of Sugar Land	✓	✓	✓	✓
City of Tomball		✓	✓	✓
City of Webster	✓	✓	✓	✓
City of LaPorte	✓	✓	✓	✓
Fort Bend County	✓		✓	
Gulf Coast Water Authority	✓	✓	✓	✓
Harris County Flood Control District	✓	✓		✓
Liberty County WCID #5	✓		✓	✓
San Jacinto River Authority	✓	✓	✓	✓
Sabine River Authority	✓	✓	✓	✓
Lower Neches Valley Authority		✓		✓

4. PROJECT TEAM AND RESOURCES

ORGANIZATIONAL CHART



MBCO Engineering, LLC, (MBCO) established in 2015, has built a solid reputation as a full-service engineering

and survey firm committed to quality customer service, accurate, rapid response, and dependable surveying services. They are equipped to perform work for a rotation list or single project: schematic; design; construction; as-built; and anything in between.

Their surveying services include: Utility and Engineering Survey, Right-Of-Way, Boundaries and Topography, Easements, Construction Staking, GIS, As-Built Drawings and 3D Modeling.

They are a Women-Owned Business Enterprise (WBE), Disadvantaged Business Enterprise (DBE), Small Business Enterprise (SBE) and a Historically Underutilized Business (HUB).



TOLUNAY-WONG
ENGINEERS

Toulunay-Wong Engineers, Inc. (TWE) is a full-service geosciences and materials engineering company

with a vision of becoming a premier, multi-disciplinary consulting firm. Core areas of service include:

- Geotechnical Engineering
- Construction Materials Testing
- Geophysical Services
- Environmental Field Services
- Deep Foundations Testing

Within each of these core service areas, they provide a wide range of consulting and testing services for projects located throughout the Gulf Coast, nationally, and internationally. They are committed to their founding principles – to partner with their Clients in providing high quality, economical and timely services. TWE is a minority-owned firm, certified by the State of Texas as a Historically Underutilized Business (HUB) firm.

TEAM MEMBER RESUMES



Jeff Taylor | Client Liaison

Jeff Taylor is FNI's Southeast Division Manager and a firm Vice President/Principal. His water resources experience in both the public and private sectors includes 32 years as a private consultant, and nine years with the City of Houston within the Department of Public Works. His experience ranges from leading small teams of consulting engineers to management of the 1,450-person water and wastewater operations for the City of Houston public utility. Experience includes the planning, design, and permitting of water, wastewater, drainage and transportation projects. His environmental/water resources expertise has focused on hydrology and hydraulics of water system facilities, with a special emphasis in water rights permitting within the State of Texas. Jeff is experienced in strategic planning and decision-making, environmental policy development and management and administration of both governmental and private sector organizations.

Experience

41 years

Education

BA, Environmental Science,
Rice University



Relevant Project Experience

Sabine River Pump Station | Sabine River Authority | Client Liaison | FNI is completing final design for a 59,200 GPM intake pump station on the Sabine River that will transfer flow through a 7.5-mile, 36-inch pipeline to SRA's Gulf Coast Canal. The project will receive \$75 million in SWIFT funds and will use the CMAR delivery method. The intake is being designed for a future expansions to 200,000 GPM.

Water Supply Alternative | Sabine River Authority of Texas | Client Liaison
| Preliminary construction costs for a new 240-MGD pump station and associated pipelines and canals.

Disaster Mitigation for Wastewater Facilities Induced by Hurricane Harvey, Package 4 | City of Houston | Client Liaison | FNI is coordinating a team of ten engineering firms to develop wastewater collection and treatment system mitigation alternatives and preliminary designs for facilities across the east side of the City of Houston's service area. Over an eight-month period, the team has developed system master plans, collection and WWTP improvement plans, five preliminary engineering reports and additional engineering design to support six independent Level 4 AACE cost estimates. The recommended improvements will be presented to FEMA for further review and approval.

Flood Protection Improvements at Surface Water Treatment Plant and Lawson's Pump Station | City of Beaumont | Client Liaison | FNI is providing design and construction phase services for flood protection improvements at the SWTP and Lawson's Pump Station. The improvements at the various facilities will be broken into several projects to align with possible funding by FEMA or other sources. The projects are as follows: Flood Protection Improvements at SWTP Electrical Building; Chemical Storage Tank Capacity Expansion at SWTP; Chemical System Improvements at SWTP; Enhanced Flood Protection at Lawson's Pump Station; Condition Assessment of Pine Street SWTP and Loeb Groundwater Facility and Project Prioritization; Technical Support for FEMA Funding Assistance.



Alan Hutson, PE, ENV SP | Principal-in-Charge

Alan Hutson is an FNI Vice President/Principal and the firm's Southeast Division Transmission, Treatment and Utilities Group Manager. Alan has designed and/or managed more than \$800 million in conveyance projects, including intake pump stations, booster pump stations, stormwater pump stations and large transmission pipelines up to 108 inches. Alan was named to Texas' and Louisiana's "Top 20 Under 40" by *Engineering News-Report* magazine. He is a leader in the development of the Envision program for sustainable infrastructure design practices. Alan has authored 12 papers and presented at national and state conferences.

Experience

23 years

Education

BS, Civil Engineering, Texas
A&M University

Registration

Professional Engineer, Texas
#90179

Envision Sustainability
Professional

TxDOT 10.4.1 Pump Stations-
Hydraulics, #14606



Relevant Project Experience

Stormwater Pump Station Improvements | Liberty County WCID #5 | Principal-in-Charge | Performed a condition assessment of two stormwater pump stations and made recommendations for improvements to the screens, pumps, piping and electrical systems. Analyzed an area protected by levees and served by two pump stations.

East Canal Transfer Pump Station | San Jacinto River Authority | Project Manager | Fast-track design of a 6,260 GPM pump station to transfer water from Coastal Water Authority's (CWA) Main Canal into the SJRA's East Canal. The project includes an intake structure on the CWA canal, two pumps, additional pump slots for future expansion, natural gas generator for reliability and discharge structure.

Lake Tawakoni Raw Water Pump Station | North Texas Municipal Water District | Project Manager | \$90 million, fast-track project that included 52,500 GPM lake pump station, 10 miles of 60-inch pipeline, 52,500 GPM booster pump station, 20 miles of 54-inch pipeline and a 6-MG ground storage tank.

Sabine River Pump Station | Sabine River Authority | Project Manager | A 59,200 GPM intake pump station on the Sabine River that will transfer flow through a 7.5-mile, 66-inch pipeline to SRA's Gulf Coast Canal. The project received \$75 million in SWIFT funds and utilized a CMAR delivery method. The intake was designed for a future expansions to 200,000 GPM.

Liquefied Natural Gas (LNG) Plant Stormwater Pump Station | Kiewit Engineering Group, Inc. | Principal-in-Charge | FNI provided feasibility analyses, design and construction phase services for two stormwater pump stations with a combined capacity of 210,000 GPM. The pump stations will alleviate storm surge and other weather-related events impacting a production plant used for exporting liquefied natural gas (LNG). FNI implemented a formed-suction intake (FSI) approach to design the intake structures, which allowed for reduced submergence on the pumps. FNI established a hydraulic baseline for each pump station's operation and identified preferable equipment options.

Second Source Re-Pump Station and Pipeline | West Harris County Water Authority | Principal-In-Charge | Design for the \$60 million project that includes a 111,300 pump station, two 10-MG ground storage tanks, chemical facilities and an operation center. The project is being designed to facilitate the addition of two more pumps and one more ground storage tank for an ultimate capacity of 174,000 GPM.



Lewis Bernard, PE | Project Manager

Lewis Bernard is a Project Manager in FNI's Southeast Division Transmission and Utilities Group serving clients along the Texas and Louisiana Gulf Coast. Lewis is an experienced Mechanical Engineer who has led diverse design teams on multimillion-dollar projects involving stormwater, wastewater and raw water pump stations. His expertise covers a wide-range of pump station mechanical system elements, and he has experience with permitting from federal, state and local agencies. Lewis brings a strong understanding of every aspect of stormwater pump stations and the experience to lead projects involving the kinds of large pumps and drivers required to clear massive amounts of water during major storms.

Experience

15 years

Education

BS, Mechanical Engineering,
Tulane University

Registration

Professional Engineer, Texas
#140614

National Council of
Examiners for Engineering
and Surveying, #13-035-15



Relevant Project Experience

Disaster Mitigation for Wastewater Facilities Induced by Hurricane Harvey, Package 4 | City of Houston | QA/QC | FNI is coordinating a team of ten engineering firms to develop wastewater collection and treatment system mitigation alternatives and preliminary designs for facilities across the east side of the City of Houston's service area. Over an eight month period, the team has developed system master plans, collection and WWTP improvement plans, five preliminary engineering reports and additional engineering design to support six independent Level 4 AACE cost estimates. The recommended improvements will be presented to FEMA for further review and approval.

Scarsdale Drainage Pump Station Hazard Mitigation Project* | Plaquemines Parish | Project Manager | FEMA funded grant to repair then relocate all existing mechanical and electrical equipment required to drive four 84-inch horizontal screw pumps from a new operating floor above the base flood elevation. Lewis selected the new parallel offset gear drive and designed new fuel, coolant, water and compressed air systems to support the relocated 900 HP engine. Lewis also conducted in the initial damage assessment from Hurricane Isaac, benefit cost analysis and specified components to be repaired.

Magnolia Drainage Pump Station* | St. Charles Parish | Project Manager/Lead Mechanical Engineer/Construction Manager | Lewis was the lead mechanical engineer and project manager on a four pump, 460 CFS engine driven drainage pump station. Lewis designed the engine exhaust, coolant systems, superstructure ventilation as well as the fuel storage and delivery facilities. Pumps were driven by Tier 4 diesel engines and housed in a hurricane rated building.

Hurricane Katrina Repairs to Sewerage and Water Board of New Orleans Sewage Pump Stations* | Sewerage and Water Board of New Orleans | Design Manager/Construction Manager | Lewis assessed damage, developed scope of work, managed design engineers, reviewed plans, filed documentation with local and federal agencies on repairs to storm damaged pump stations and hazard mitigation grants to elevate equipment.

Anna St and Cardinal Drive Sewer Lift Station* | City of Slidell | Project Manager/Lead Mechanical Engineer | Lewis was the lead mechanical engineer and the project manager to rehabilitate two existing sewer lift stations with new pumps, piping, valves and site improvements.

**Experience prior to FNI*



Jeff Hensley, PE | QA/QC

Jeff Hensley is an FNI Vice President/Principal and the firm's Electrical Lead Technical Professional. His project experience includes electrical and instrumentation design, motor starting and short-circuit analysis, value engineering, shop drawing review, inspections, start-up testing, witness testing, preliminary design, scope development and preparation of specifications for major electrical and instrumentation equipment.

Relevant Project Experience

Experience

30 years

Education

BS, Electrical Engineering,
Kansas State University

Registration

Professional Engineer, TX
#84677

10.4.2 Pump Stations-
Electrical, #14651

Professional Affiliations

Institute of Electrical and
Electronics Engineers



Mike Streeter Pump Station Emergency Generator Improvements | Dallas County Utility and Reclamation District | Project Manager | FNI provided design and construction phase services to replace the 4160V switchgear and motor control center at the Mike Streeter Stormwater Pump Station. Improvements included the installation of two 2750 kW, 4160V diesel-driven emergency back-up generators, new 4160V paralleling switchgear, new 4160V motor control centers, new 480V switchboard, new low-voltage electrical distribution equipment, new energy-efficient LED indoor and outdoor lighting and a new SCADA system.

Dorchester Pump Station Emergency Generator | City of Grand Prairie | Senior Advisor | FNI is providing design services and installation of an emergency back up generator at the Dorchester Levee Pump Station and associated improvements.

Pump Station Electrical Improvements and Emergency Backup Power | Dallas County Utility and Reclamation District | Project Manager | FNI provided design, bid and construction phase services for replacement of all electrical distribution equipment for the Irving Flood Control District Section III Pump Station. The multi-year project encompassed two phases to provide power redundancy to the pump station.

Northside and Eastside Pump Station Electrical Rehabilitation | City of Richardson | Senior Advisor | FNI is designing improvements for the rehabilitation of the Northside Pump Station electrical equipment and the Eastside Pump Station No. 2 electrical equipment. The rehabilitation at the Northside Pump Station will generally include HVAC for the office spaces (not the electrical room), replacement of the medium voltage MCC, evaluation and replacement (if needed) of the utility transformer, new generator to parallel existing or a replacement generator, and electrical power system studies. The rehabilitation of the Eastside Pump Station No. 2 will include replacement of the medium voltage MCC, new generator, and electrical power system studies. No improvements are planned at the Pump Station No. 1.

Southeast Water Reclamation Plant Transformer Rehabilitation Electrical Improvements Project, Phase 2 | City of Lubbock | Project Manager | FNI provided analysis, design and construction phase services to upgrade the electrical distribution systems at multiple delivery points throughout the Southeast Water Reclamation Plant (SEWRP) over a multiyear period. Improvements included assessment of major electrical equipment, replacement of several unit substation transformers, installation of backup generator at Lift Station 48, upgrades to 4160V switchgear, and arc flash hazard analysis.

**Experience**

17 years

EducationBS, Electrical Engineering,
University of Texas at Austin**Registration**Professional Engineer, Texas
#102369

Rebecca Sandoval, PE | Electrical

Rebecca Sandoval is experienced in electrical system design, SCADA and instrumentation system design for municipal clients, particularly for pump station, water/wastewater treatment and other municipal utility facilities. She provides engineering services related to design and shop drawing review.

Relevant Project Experience

Highlands East Canal Transfer Pump Station | San Jacinto River Authority | Project Team | Fast-track design of a nine-MGD pump station to transfer water from Coastal Water Authority's (CWA) Main Canal into the SJRA's East Canal. The project includes an intake structure on the CWA canal, two pumps to provide a firm capacity of nine MGD, additional pump slots for future expansion, an enclosed pump station and electrical room, natural gas generator for reliability, site piping and discharge structure.

Mary Rhodes Phase 2 Pipeline and Pump Stations | City of Corpus Christi | Project Engineer | FNI provided planning, design, and construction management services for the TWDB-funded \$125 million Mary Rhodes Phase 2 project. The project included 41 miles of 54-inch raw water pipeline, ground storage tank, intake pump station site on the Colorado River, sedimentation basin, and booster pump station and tie-in to the existing 101-mile Mary Rhodes Phase 1 pipeline system.

Carbon Pump Station | City of Irving | Electrical Engineer | FNI is performing study, design and construction services of a 33-MGD pump station including pumps, motors, piping, valves, electrical equipment, chemical feed system, pump station building, office space, storage room with mop sink, restroom, electrical equipment room and generator room. The pump station will include HVAC, architectural, structural, plumbing, fire protection, electrical, instrumentation and controls as required.

Central Wastewater Treatment Plant Influent Pump Station Improvements | Dallas Water Utilities | Electrical Engineer | FNI provided the evaluation, preliminary design, design and construction services for a \$49 million, 425-MGD raw wastewater pump station at the City of Dallas Water Utilities' 150-MGD Central WWTP. The IPS will be the largest installation in the U.S. of this type. Additional pump slots will be added for a total of eight pumps at build-out. Stage 1 construction also includes a Coarse Screening Facility with three 161-MGD coarse screens.

Sabine River Pump Station | Sabine River Authority | Electrical Engineer | A 59,200 GPM intake pump station on the Sabine River that will transfer flow through a 7.5-mile, 66-inch pipeline to SRA's Gulf Coast Canal. The project received \$75 million in SWIFT funds and utilized a CMAR delivery method. The intake was designed for a future expansions to 200,000 GPM.



Peter Bartels, PE | Structural Engineer

Peter Bartels is an FNI Associate and Structural Engineer experienced in design of steel, concrete and masonry buildings and concrete for water and wastewater treatment plants, pump stations and water transmission. His experience includes a variety of material types, structural systems, environments and end-user demands. In addition, Peter has experience performing site visits and observations of construction work.

Relevant Project Experience

Highlands East Canal Transfer Pump Station | San Jacinto River Authority
| Structural Engineer | Fast-track design of a nine-MGD pump station to transfer water from Coastal Water Authority's (CWA) Main Canal into the SJRA's East Canal. The project includes an intake structure on the CWA canal, two pumps to provide a firm capacity of nine MGD, additional pump slots for future expansion, an enclosed pump station and electrical room, natural gas generator for reliability, site piping and discharge structure.

Dorchester Pump Station Emergency Generator | City of Grand Prairie
| Structural Engineer | FNI is providing design services and installation of an emergency back up generator at the Dorchester Levee Pump Station and associated improvements.

Pump Station Electrical Improvements and Emergency Backup Power | Dallas County Utility and Reclamation District | Structural Engineer | FNI provided design, bid and construction phase services for replacement of all electrical distribution equipment for the Irving Flood Control District Section III Pump Station. The multi-year project encompassed two phases to provide power redundancy to the pump station.

Chocolate Bayou Pump Station | Gulf Coast Water Authority | Structural Engineer | Design of a new 72-MGD pump station on C1 Ditch, pumping into the Chocolate Bayou Canal system, with four submersible column pumps driven by 200-HP, 480 V electric motors. The intake will consist of rectangular bays designed in accordance with Hydraulic Institute standards. The intake includes four bar screens, a mechanical trash rake system and slots for stop logs. The pumps will discharge through individual 24-inch diameter discharge lines and each line will have a flow meter downstream of the pump.

Alta Vista Pump Station Expansion | City of Keller | Structural Engineer | Expansion of the City of Keller Alta Vista Pump Station, including four new pumps and motors to deliver a firm capacity of 15 MGD, associated electrical gear, communications, SCADA, a building to house the proposed pump station, and wholesale metering facilities. The scope of the project included design of transmission facilities up to the existing fence line.

Experience

21 years

Education

MS, Structural Engineering,
West Virginia University

BS, Civil Engineering, West
Virginia University

Registration

Professional Engineer, Texas
#94584

17.1.1 Structural
Engineering, #17647

11.2.1 Major Bridge
Construction Management
and Inspection, #17647

10.4.3 Pump Stations-
Structures, #17647

14.4.1 Building Foundation
Studies, #17647

5.2.1 Bridge Design, #17647





Van Cashen, PE, LEED AP BD + C, ENV SP | Mechanical Engineer

Van Cashen is a Mechanical Engineer, experienced in energy analyses, and HVAC and plumbing design. He has provided mechanical and plumbing design for many projects for higher education and municipal facilities, pump stations, office buildings and warehouses. Van has provided HVAC and plumbing design services for new construction and renovations. Van is a former President of the Fort Worth Chapter of ASHRAE.

Relevant Project Experience

Experience
12 years

Education
BS, Mechanical Engineering,
University of Texas at
Arlington

Registration
Professional Engineer, Texas
#118595

17.2.1 Mechanical
Engineering, #29706

17.3.1 Plumbing
Engineering, #29706

Envision Sustainability
Professional

LEED Accredited Professional
Building Design +
Construction

Stormwater Treatment Plant and Raw Water Pump Station Final Design | City of Pearland | Mechanical Engineer | FNI is designing a raw-water intake, canal control structure, raw-water pump station, and piping from the pump station to the stormwater treatment plant.

Sabine River Pump Station, Pipeline and Canal Improvements, Phase 2 | Sabine River Authority of Texas | Mechanical Engineer | Preliminary design and permitting for a new, 85-MGD raw-water pump station on the Sabine River. FNI is providing design and preliminary layouts for the pump station, pipeline, canal connection and siphon improvements, as well as environmental permitting, geotechnical exploration and analysis, and water quality analysis.

Southeast Water Reclamation Plant Transformer Rehabilitation Electrical Improvements Project, Phase 2 | City of Lubbock | Mechanical Engineer | FNI provided analysis, design and construction phase services to upgrade the electrical distribution systems at multiple delivery points throughout the Southeast Water Reclamation Plant (SEWRP) over a multiyear period. Improvements included assessment of major electrical equipment, replacement of several unit substation transformers, installation of backup generator at Lift Station 48, upgrades to 4160V switchgear, and arc flash hazard analysis. Construction phase services are scheduled for completion in late 2021.

Alta Vista Pump Station Expansion | City of Keller | Mechanical Engineer | Expansion of the City of Keller Alta Vista Pump Station, including four new pumps and motors to deliver a firm capacity of 15 MGD, associated electrical gear, communications, SCADA, a building to house the proposed pump station, and wholesale metering facilities. The scope of the project included design of transmission facilities up to the existing fence line.



OVERALL CAPABILITIES OF STAFF AND SUB-CONTRACTORS

As described in the section above, FNI will utilize a small team that has worked together to execute similar work packages. Internal communication between the project team will be lead by our Project Manager, Lewis Bernard. Lewis has experience managing large, diverse project teams. The team will utilize email and TEAMS to communicate throughout the project. Project files will be shared on a project drive to allow the design team to collaborate on the project.

FNI will utilize local, MWBE firms for survey and geotechnical work. MBCO is a women owned firm that FNI has worked with recently. They have provided responsive, high-quality submittals for our team. FNI has also worked extensively with Tolunay-Wong for geotechnical drilling and engineering services for work in the Golden Triangle. They have provided FNI great service, routinely meeting budget and schedule.

If awarded the contract, FNI will meet in person with the DD7 team to develop the scope and expectations for the project. Once under contract, FNI will conduct an in-person kick-off meeting with DD7 and then meet at the project site to walk the site and verify existing conditions and the location for the proposed generator building. We will talk through the equipment and control needs for the project. Survey and geotechnical field work will commence immediately. FNI will develop a site plan, floor plan and one-line diagrams for the project and submit this to DD7 for review and approval before finalizing the design. FNI will then issue a 90 percent set of plans and specifications for review by the Owner. We will have monthly coordination meeting by phone and in-person reviews of the preliminary layouts and 90 percent plans.



Right people
Right place
Right availability

Choosing a Project Team

We've put forth the advance-planning effort to verify we have the right team members, in the right place, with the right availability to meet client goals. Several factors influenced this choice, including individual experience and history of working together on common projects.

Our chosen team combines decades of experience in a wide range of disciplines. This complementary blend of team member expertise in their various areas of specialization results in a solid, well-rounded team, which ultimately benefits the client.

Beyond the proposed team, FNI has access to **800+** employees firmwide to assist, as necessary. As a firm focused on client service, we will commit the resources required to get the job done.



Main Stem Pump Station

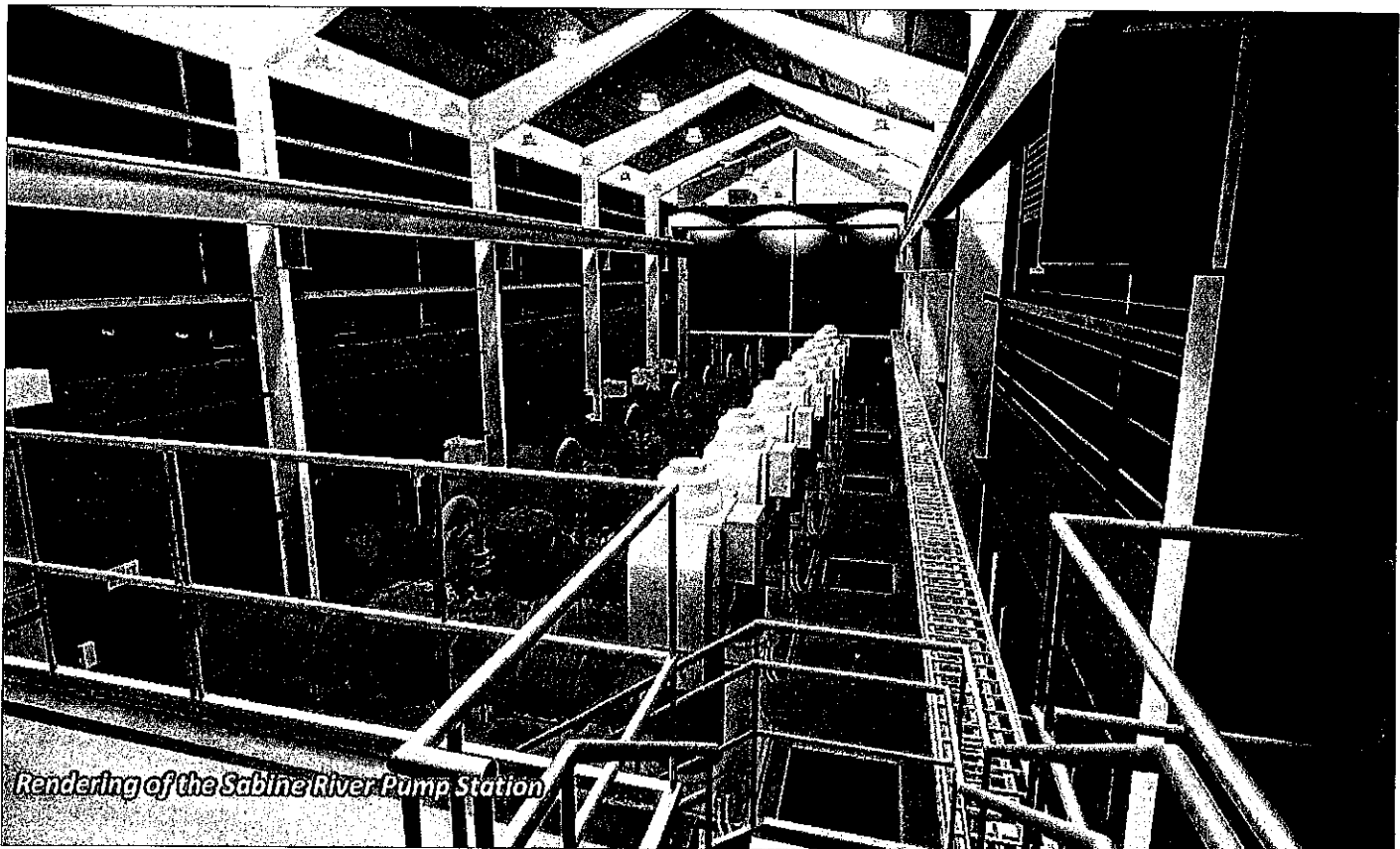
5. CAPACITY TO PERFORM

FNI confirms that the team proposed has the availability to carry out the scope of work within the proposed timeline. Upon notice to proceed, FNI can prepare the plans and specifications in four months for this project and be ready to bid the project for construction.

FNI has over 150 design professionals in our Houston office and 950 employees across the company. We have the bench strength to add resources to the project if needed to meet deadlines.

As shown in the table, FNI has plenty of capacity to perform this project while meeting the needs of our existing projects. FNI and our subconsultants are committed to meeting the 4-month schedule for the project.

STAFFING RESOURCES TO SERVE JEFFERSON COUNTY	EMPLOYEE RESOURCES	
	Discipline	Number of Staff
	Electrical	32
	Structural	24
	Mechanical	16
	Transmission and Utilities	67



Rendering of the Sabine River Pump Station

6. LICENSES, INSURANCE AND LITIGATION





THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS

Certifies that

FREESE AND NICHOLS, INC.

is duly registered and authorized in accordance with all
rules and regulations of the State of Texas

in testimony whereof this certificate has been issued
by the authority of this Board

Registration No. BR 671

Renewal of this registration is due on May 31, 2021

© 2020 - Texas Board of Architectural Examiners

Corporations Section
P.O.Box 13697
Austin, Texas 78711-3697



Rolando B. Pablos
Secretary of State

Office of the Secretary of State

Certificate of Fact

The undersigned, as Secretary of State of Texas, does hereby certify that the document, Articles of Incorporation for FREESE AND NICHOLS, INC. (file number 39456600), a Domestic For-Profit Corporation, was filed in this office on December 20, 1976.

It is further certified that the entity status in Texas is in existence.

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on November 15, 2018.



Rolando B. Pablos
Secretary of State

Phone: (512) 463-5555
Prepared by: SOS-WEB

Come visit us on the internet at <http://www.sos.state.tx.us/>
Fax: (512) 463-5709
TID: 10264

Dial: 7-1-1 for Relay Services
Document: 849989700003

LITIGATION INFORMATION

FNI has been involved in the following litigation in the last 10 years:

- Plaintiff filed personal injury lawsuit against municipal client and other entities involved in the construction of a project. FNI was a subconsultant and had a small role in project design and management. **FNI was dismissed from the suit.**
- FNI was named in a suit that claimed materials used during construction of a dam stabilization project failed to alleviate an erosion issue at the dam. **FNI resolved this issue through mediation.**
- FNI designed an elevated water storage tank that incorporated wind energy features requested by the client. The wind energy features did not perform to the satisfaction of the client. The client initiated litigation against the manufacturer, contractor and FNI. **FNI resolved this issue through mediation.**
- A lawsuit alleged FNI was not clear on the placement of a fire hydrant in its design. In a related suit, court documents revealed that seven teenagers got into a five-person vehicle after all had been drinking. The driver hit the fire hydrant while speeding at over twice the posted speed limit and wrecked the vehicle. The driver was intoxicated at the time of the accident and was later sentenced on charges for aggravated assault and manslaughter. **FNI resolved this issue through mediation.**
- FNI hired a consultant to perform services for a municipality as part of a project team. The consultant's services did not meet the quality level that FNI or its client required for the project to be successful. Client asked FNI to remove the consultant from the project team. As a result, the client did not pay FNI for the consultant's services. FNI hired another consultant to perform the work and the project was completed successfully. The original consultant sued FNI for non-payment. **FNI resolved this issue through mediation.**
- Contractor sued FNI's municipal client over issues related to the construction of a treatment plant. FNI provided construction management services and another engineering firm provided the design. FNI and its client entered into a joint defense and cooperation agreement. **FNI was dismissed from the suit.**
- A private homeowner experienced flooding of his property. FNI provided plat review for the municipality to determine whether the developer plans met current code. The developer/contractor built unapproved temporary access roads that contributed to the flooding. **FNI was dismissed from the suit.**
- FNI designed improvements for an easement area adjacent to a homeowner's property. The homeowner experienced flooding events after improvements. **FNI resolved this issue through mediation.**
- FNI designed emergency repairs to the Spring Lake Dam and Spillway. After the repairs were constructed, a restaurant employee jumped off a balcony into the spillway and drowned. FNI was one of several defendants in the case. **FNI resolved this issue through mediation.**
- An out-of-state architect was sued by its local client. The out-of-state architect, in turn, sued FNI and other local firms alleging improper slope on four ADA-accessible parking spots designed in the mid '90s. **FNI resolved this issue through mediation.**

Mission

Innovative approaches ...
Practical results ...
Outstanding service

Vision

Be the firm of choice for
clients and employees

Values



LEADS

- ▶ (L) LEARN CONTINUOUSLY
- ▶ (E) ENGAGE AS FAMILY
- ▶ (A) ACT WITH INTEGRITY
- ▶ (D) DELIVER QUALITY
- ▶ (S) SERVE ALWAYS



10497 Town and Country Way, Suite 500
Houston, TX 77024
713-600-6800
www.freese.com



FREESE AND NICHOLS, INC.

CURRENT STATUS
AS OF: 3/1/2022
J. West

DUNS Unique Entity ID 073177362	SAM Unique Entity ID KKJCTMJ3HZJ4	CAGE / NCAGE 094S7
Purpose of Registration All Awards	Registration Status Active	Expiration Date Sep 16, 2022
Physical Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804 United States	Mailing Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804 United States	

ATTACHMENT A: PAGE A.30 of 196

Business Information

Doing Business as (blank)	Division Name (blank)	Division Number (blank)
Congressional District Texas 12	State / Country of Incorporation Texas / United States	URL http://www.freese.com

Registration Dates

Activation Date Sep 16, 2021	Submission Date Sep 16, 2021	Initial Registration Date Apr 9, 2002

Entity Dates

Entity Start Date Jan 1, 1894	Fiscal Year End Close Date Dec 31

Immediate Owner

CAGE (blank)	Legal Business Name (blank)

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors Subchapter S Corporation
Profit Structure For Profit Organization		

Socio-Economic Types

Check the registrant's Repts & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
No	No

EFT Indicator	CAGE Code
0000	094S7

Points of Contact**Electronic Business**

James Kisiel, Program Manager	Freese And Nichols Inc 10497 Town And Country WAY, Suite 600 Houston, Texas 77024 United States
Jeff Scarborough	Freese And Nichols Inc 10497 Town And Country WAY, Suite 600 Houston, Texas 77024 United States

Government Business

Jeff Scarborough	Freese And Nichols Inc 10497 Town And Country WAY, Suite 600 Houston, Texas 77024 United States
Maria Aguilar	4055 International Plaza STE 200 Fort Worth, Texas 76109 United States

Past Performance

Jeff Scarborough	Freese And Nichols Inc 10497 Town And Country WAY, Suite 600 Houston, Texas 77024 United States
James Kisiel, Program Manager	Freese And Nichols Inc 10497 Town And Country WAY, Suite 600 Houston, Texas 77024 United States

Service Classifications**NAICS Codes**

Primary	NAICS Codes	NAICS Title
Yes	541330	Engineering Services
	541310	Architectural Services
	541611	Administrative Management And General Management Consulting Services
	541620	Environmental Consulting Services

Disaster Response

Yes, this entity appears in the disaster response registry.

States	Counties	Metropolitan Statistical Areas
North Carolina		
Oklahoma		
Texas		



Divestment Statute Lists

The Comptroller provides the following divestment lists in connection with Tex. Govt. Code 808.051 (HB 89, 85th R.S.), Tex. Govt. Code 2252.153 (SB 252, 85th R.S.), and Tex. Govt. Code 2270.0209 (SB 253, 85th R.S.), and for compliance with contracting requirements referenced in Tex. Govt. Code 2252.152 (SB 252, 85th R.S.) and Tex. Govt. Code 2270.002 (HB 89, 85th R.S.).

- Companies that Boycott Israel [comptroller.texas.gov/purchasing/docs/anti-bds.pdf] — *Updated September 2021*
- Scrutinized Companies with ties to Sudan [comptroller.texas.gov/purchasing/docs/sudan-list.pdf] — *Updated November 30, 2021*
- Scrutinized Companies with ties to Iran [comptroller.texas.gov/purchasing/docs/iran-list.pdf] — *Updated November 30, 2021*
- Designated Foreign Terrorist Organizations [comptroller.texas.gov/purchasing/docs/foreign-terrorist.pdf] — *Updated June 2021*
- Scrutinized Companies with ties to Foreign Terrorist Organizations [comptroller.texas.gov/purchasing/docs/fto-list.pdf]
- FAQ for Investing Entities [comptroller.texas.gov/purchasing/docs/SB-253-guidance.pdf]

List of Companies that Boycott Israel
Pursuant to Texas Government Code Chapter 808

COMPANY NAME	ISSUER ID	ISIN
ASN BANK NV	ID000000002407715	US0814651065
BEN & JERRY'S HOMEMADE, INC.		
BETSAH INVEST SA		
CACTUS SA		
CO-OPERATIVE GROUP LIMITED	IID0000000002241186	GB00BFXWHQ29
DNB BANK ASA	IID000000002246697	NO0010161896
GULOGUZ DIS DEPOSU TICARET VE PAZARLAMA LTD		
KARSTEN FARMS		
KLP KAPITALFORVALTNING AS		
KOMMUNAL LANDSPENSJONSKASSE GJENSIDIG FORSIKRINGSSKAP	IID0000000002228977	XS1217882171
UNILEVER PLC	IID000000002137159	GB00B10RZP78

Updated September 2021

3/1/22
 RFQ 21-015/JW
 O. West

3/1/22
RFQ 21-015/JW
J. West

2021 List of Companies Engaging in Scrutinized Business Operations in Sudan

Chapter 2270 of the Texas Government Code

The United States government determination regarding Sudan as a State Sponsor of Terrorism was rescinded, effective December 14, 2020. Further, the United States government revoked the major components of all economic sanctions against Sudan and the Government of Sudan, effective October 12, 2017.

However, these changes do not authorize transactions that are prohibited under the U.S. Darfur Sanctions Regulations or related executive orders. Accordingly, the Comptroller's office will continue monitoring for companies that meet the Texas statutory definition of a scrutinized company in relation to Sudan.

Updated November 2021

3/1/22
RFQ 21-015/JW
Q. West

2021 List of Companies Engaging in Scrutinized Business Operations in Iran
Chapter 2270 of the Texas Government Code

COMPANY NAME	ISIN
AFRY AB F/K/A AF POYRY AB	SE0005999836
BEIQI FOTON MOTOR CO, LIMITED	CNE000000WC6
BHARAT PETROLEUM CORPORATION LIMITED	INE029A01011
CHINA RAILWAY GROUP LIMITED	CNE100000866
GLENCORE PLC	JE00B4T3BW64
HINDUSTAN PETROLEUM CORPORATION LIMITED	INE094A01015
HYUNDAI MOTOR COMPANY	KR7005380001
INDIAN OIL CORPORATION LIMITED	INE242A01010
JINDAL STEEL & POWER LIMITED	INE749A01030
LLOYDS BANKING GROUP PLC	GB0008706128
MAN SE	DE0005937007
MANGALORE REFINERY & PETROCHEMICALS LIMITED	INE103A01014
NORINCO INTERNATIONAL COOPERATION LIMITED	CNE000000VZ9
OIL & NATURAL GAS CORPORATION LIMITED	INE213A01029
RENAULT SA	FR0000131906
SINOPEC ENGINEERING (GROUP) CO, LTD	CNE100001NV2
TELECOM ITALIA SPA	IT0003497168
VODAFONE GROUP PLC	GB00BH4HKS39
ZHEJIANG SHIBAO CO., LTD.	CNE100001MJ9

Updated November 2021

List of Designated Foreign Terrorist Organizations Pursuant to Texas Government Code Chapter 2270

Organization

Abdallah Azam Brigades (AAB)
 Abu Sayyaf Group (ASG)
 Al-Aqsa Martyrs Brigade (AAMB)
 al-Ashkar Brigades (AAB)
 al-Mulathamun Battalion (AMB)
 al-Nusra Front
 al-Qa'ida (AQ)
 al-Qa'ida in the Arabian Peninsula (AQAP)
 Al-Qa'ida in the Indian Subcontinent
 al-Qa'ida in the Islamic Maghreb (AQIM)
 al-Shabaab
 Ansar al-Dine (AAD)
 Ansar al-Islam (AAI)
 Ansar al-Shari'a in Benghazi
 Ansar al-Shari'a in Darnah
 Ansar al-Shari'a in Tunisia
 Ansaru
 Army of Islam (AOI)
 Asa'ib Ahl al-Haq (AAH)
 Asbat al-Ansar (AAA)
 Aum Shinrikyo (AUM)
 Basque Fatherland and Liberty (ETA)
 Boko Haram
 Communist Party of the Philippines/New People's Army (CPP/NPA)
 Continuity Irish Republican Army (CIRA)
 Gama'a al-Islamiyya (Islamic Group – IG)
 HAMAS
 Haqqani Network (HQN)
 Harakat Sawa'd Misr (HASM)
 Harakat ul-Jihad-i-Islami (HUJI)
 Harakat ul-Jihad-i-Islami/Bangladesh (HUJI-B)
 Harakat ul-Mujahidin (HUM)
 Hizbullah
 Hizbul Mujahideen (HM)
 Indian Mujahideen (IM)
 ISL Sinai Province (formerly Ansar Bayt al-Maqdis)

Organization

ISIL-Khorasan (ISIL-K)
 ISIS-Bangladesh
 ISIS-DRC
 ISIS-Greater Sahara
 ISIS-Mozambique
 ISIS-Philippines
 ISIS-West Africa
 Islamic Jihad Union (IJU)
 Islamic Movement of Uzbekistan (IMU)
 Islamic Revolutionary Guard Corps (IRGC)
 Islamic State of Iraq and the Levant (formerly al-Qa'ida in Iraq)
 Islamic State of Iraq and the Levant's Branch in Libya (ISIL-Libya)
 Jaish-e-Mohammed (JEM)
 Jama'at Nusrat al-Islam wal-Muslimin (JNIM)
 Jaysh al-Adl (formerly Jundallah)
 Jaysh Rijal al-Tariq al Naqshabandi (JRTN)
 Jemaah Anshorut Tauhid (JAT)
 Jemaah Islamiya (JI)
 Kahane Chai (Kach)
 Kata'ib Hizballah (KH)
 Kurdistan Workers Party (PKK, aka Kongra-Gel)
 Lashkar i Jhangvi (LJ)
 Lashkar-e-Tayyiba (LeT)
 Liberation Tigers of Tamil Eelam (LTTE)
 Mujahidin Shura Council in the Environs of Jerusalem (MSC)
 National Liberation Army (ELN)
 Palestine Islamic Jihad (PIJ)
 Palestine Liberation Front (PLF)
 PFLP-General Command (PFLP-GC)
 Popular Front for the Liberation of Palestine (PFLP)
 Real Irish Republican Army (RIRA)
 Revolutionary Armed Forces of Colombia (FARC)
 Revolutionary People's Liberation Party/Front (DHKP/C)
 Revolutionary Struggle (RS)
 Shining Path (SL)
 Tehrik-e Taliban Pakistan (TTP)

Source: U.S. Department of State <https://state.gov/foreign-terrorist-organizations/>

Updated June 2021

3/1/22 D. West
 RFP 21-015/JW

**List of Companies Engaging in Scrutinized Business Operations
With a Designated Foreign Terrorist Organization
Pursuant to Texas Government Code Chapter 2270**

COMPANY NAME

No Companies Identified

Updated June 2021

3/1/22
RFQ 21-015/JW
D. West



FREEAND-02

KSU6721

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/2/2022

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 Ames & Gough 8300 Greensboro Drive Suite 980 McLean, VA 22102	CONTACT NAME: PHONE (A/C, No, Ext): (703) 827-2277		FAX (A/C, No): (703) 827-2279
	E-MAIL ADDRESS: admin@amesgough.com		
	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A : Hartford Underwriters Insurance Company A+ (XV)		30104
	INSURER B : Twin City Fire Insurance Company A+ (XV)		29459
INSURED Freese and Nichols, Inc. 801 Cherry Street, Suite 2800 Fort Worth, TX 76102	INSURER C : Hartford Casualty Insurance Company A+ (XV)		29424
	INSURER D : Hartford Accident and Indemnity Company A+ (XV)		22357
	INSURER E : Continental Casualty Company (CNA) A, XV		20443
	INSURER F :		

COVERAGES

CERTIFICATE NUMBER:

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
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ Contractual Liab. GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☐ LOC OTHER:			42UUNOL5238	10/23/2021	10/23/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			42UENOL5558	10/23/2021	10/23/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	☒ UMBRELLA LIAB ☒ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☒ RETENTION \$ 10,000			42 HXU OL 5747	10/23/2021	10/23/2022	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☒ Y ☒ N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	42WBOL6H3F	10/23/2021	10/23/2022	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
E	Professional Liab.			AEH008214422	10/23/2021	10/23/2022	Per Claim \$ 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
PROFESSIONAL LIABILITY AGGREGATE LIMIT: \$10,000,000

RE: Crane Bayou Pump Station

County of Jefferson, Texas is included as Additional Insured with respect to General Liability, Auto Liability, and Umbrella Liability when required by written contract.

CERTIFICATE HOLDER

CANCELLATION

County of Jefferson, Texas 1149 Pearl Street First Floor Beaumont, TX 77701	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

Tolunay-Wong Engineers, Inc.

2455 West Cardinal Drive, Suite A • Beaumont, Texas 77705 • Phone: (409) 840-4214 • www.tweinc.com

September 15, 2021

Freese and Nichols, Inc.

10497 Town and Country Way, Suite 600
Houston, Texas 77024

Attn: Mr. Lewis Bernard, P.E.
Lewis.Bernard@freese.com

Ref: Proposal for Geotechnical Services
Crane Bayou Pump Station
Emergency Generator Building
Jefferson County, Texas
TWE Proposal No. P21-B327

Dear Mr. Bernard,

Tolunay-Wong Engineers, Inc. (TWE) is pleased to submit this proposal to provide geotechnical services for the referenced project. This proposal presents a general description of the project, our proposed scope of services to be provided and the estimated cost for completion of our services associated with the project.

Project Overview

The project includes the design and construction of an emergency generator building at the Crane Bayou Pump Station in Jefferson County, Texas. The pump station is situated near Station 310+00 of the Hurricane Flood Protection Levee System (HFPLS). We understand the precast concrete building will be approximately 30-ft square in plan with a height of about 15-ft and will exert a uniform ground bearing pressure of no more than 700-psf. We understand a stiffened slab-on-grade is anticipated for foundation support at this time but both shallow and deep foundations are still under consideration.

Available Geotechnical Data

TWE Previously performed geotechnical investigations within 500-ft to 1,000-ft of the project site under TWE Project No. 10.23.360. Test borings B-16 (Station 300+00) and B-17 (Station 321+00) from the referenced project were performed to depths of 60-ft below existing grade within the centerline of the HFPLS. This information will be utilized to supplement the subsurface data obtained from the current scope.

Scope of Services

The purpose of our geotechnical services will be to provide the geotechnical information needed to assist the Client in the design and construction of the proposed generator building. Our scope of services can be categorized into three (3) major areas: field program, laboratory testing and engineering analysis/report preparation.

Field Program

We propose to supplement the available geotechnical data from nearby the site by conducting one (1) site-specific test boring (TB) to a depth of 80-ft below existing grade at the location of the proposed structure. At the time of this proposal, a site plan showing the proposed building location was not available. However, we understand the location of the emergency generator building will be as close to the existing pump station as possible. We anticipate the building and TB location will be selected prior to mobilization of drilling equipment and personnel.

Geotechnical field investigations to obtain seismic information of the subsurface soils are not included in our scope of services. We will provide the seismic site class based on the information obtained from the available test boring data and textbook correlations. Surveying services to obtain the ground surface elevation of the boring location and installation of standpipe piezometers are also excluded from our scope of services herein.

Pre-Commencement

We will notify the Texas 811 One Call System prior to the commencement of our field program for clearance of subsurface utilities and/or pipelines within the project site. Other field program safety tasks will include preparation of a Safety Action Plan (SAP), daily inspection forms and daily tailgate safety meeting documents.

Test Boring (TB)

The test boring will be performed and logged by TWE experienced Geotechnicians under the direction of a Professional Engineer experienced in geotechnical engineering. Geotechnical drilling, sampling and grouting will be performed in accordance with ASTM International standards. The test boring will be performed using conventional highland buggy-mounted drilling equipment.

We will dry-auger the test boring until groundwater is observed or until borehole conditions require the use of wash-rotary drilling methods. No provisions are made herein to conduct hollow-stem auger (HSA) drilling methods or for preparation or submittal of a United States Army Corps of Engineers (USACE) Programmatic Drilling Program Plan (PDPP) Addendum for geotechnical explorations within or immediately adjacent to the HFPLS.

Soil samples will be obtained continuously from existing ground surface to 12-ft, at 13-ft to 15-ft and at 5-ft depth intervals thereafter until the boring completion depth is reached. When groundwater is encountered, the level will be allowed to stabilize for about 15-min prior to completing the test boring. Static groundwater level readings will be obtained on 5-min intervals during the 15-min time period.

Fine-grained, cohesive soils will be sampled using pushed, thin-walled tubes with an inside diameter of 2.87-in. Our Geotechnician will conduct field strength measurements using a pocket penetrometer or hand torvane device on each cohesive soil sample recovered. The samples will be wrapped in foil, placed in moisture sealed containers and handled to minimize disturbance prior to transport to our laboratory.

Where coarse-grained, cohesionless or semi-cohesionless soils are encountered, sampling will be performed using standard penetration test (SPT) methods. Our Geotechnician will monitor the driving resistance of the split barrel sampler and record blow counts while performing the SPTs. The disturbed samples from SPT sampling will be placed in moisture sealed containers and delivered to our laboratory.

Cuttings and fluids from drilling and sampling operations will be spread at the ground surface adjacent to the boring location. The test boring will be backfilled with cement-bentonite grout upon drilling and sampling completion.

Laboratory Testing

Selected soil sample from the test borings will be used for geotechnical and analytical laboratory testing. The scope and extent of the laboratory testing program will depend on the subsurface conditions encountered, anticipated foundation types and assignments selected by the Geotechnical Engineer. The geotechnical laboratory testing program could include properties such as moisture content, Atterberg Limits, grain size distribution, unit weight, various types of compressive strength and one-dimensional consolidation.

The analytical laboratory testing program will consist of an assessment for sulfate attack on buried concrete elements and will include testing to detect the concentration of water-soluble sulfates in the soil samples obtained in accordance with ASTM D512.

Engineering Analysis/Report Preparation

Engineering analysis will be conducted utilizing both the available and supplemental information collected for the project. We will present the results and findings of our geotechnical services in a final, written report. Our final report will include the following:

- a. Discussion and conclusions of our findings including:
 - i. Summary of field and laboratory tasks;
 - ii. Existing project site conditions and seismic site class;
 - iii. Subsurface soil and groundwater conditions;
 - iv. Boring logs presenting tabulated field and laboratory test results;
- b. Geotechnical design recommendations for shallow foundation systems including suitable type and depth, allowable soil bearing capacity, coefficient of subgrade reaction, uplift resistance, lateral resistance, resistance to overturning moments and settlement estimates;
- c. Geotechnical design recommendations for deep foundations including suitable types and sizes, axial compression and tension capacities, lateral pile analysis design parameters, pile group considerations and settlement estimates;
- d. Geotechnical design recommendations for below grade structures and utilities including design soil parameters, equivalent fluid densities and lateral earth pressure coefficients; and,
- e. Geotechnical construction recommendations including site and subgrade preparation, excavation considerations, fill and backfill types and placement, compaction requirements, foundation installation and overall quality control monitoring, inspection and testing guidelines.

Schedule

Our proposed schedule to perform the scope of services described herein is as follows:

Table 1: Proposed Project Duration	
Item	Total Time to Complete
Pre-Commencement Activities	1 Week ¹⁾
Field Program	1 Day
Laboratory Testing	1 to 2 Weeks ²⁾
Engineering Analysis/Report Preparation	1 Week
Total Estimated Project Duration (Field to Report)	3 to 4 Weeks

1) Dependent on current field schedule, site access, weather contingencies and clearance of subsurface utilities and/or pipelines within the project site.

2) Dependent upon laboratory test assignments and long duration of tests such as one-dimensional consolidation.

We will communicate with the Client and provide interim information as needed to avoid delays in the project schedule.

Estimated Cost

The estimated not-to-exceed budget for our geotechnical services associated with this project is **\$9,975.00** as shown in the itemized budget estimate attached to this proposal. Every reasonable effort will be made to stay within this proposed budget. Should unforeseen conditions or situations occur beyond the control of TWE, we will not exceed this amount without prior approval from the Client.

Acceptance of Proposal

To authorize TWE to proceed with this project, please provide us with a Subcontract Agreement for our review and execution. If approved, the authorizing document should be sent to toconnor@tweinc.com with copy to thenneke@tweinc.com.

Closing

If you have any questions regarding this proposal, please contact us at **(409) 840-4214**. We appreciate your consideration for this project and we look forward to continuing our working relationship with the Freese & Nichols, Inc.

Sincerely,

TOLUNAY-WONG ENGINEERS, INC.

TBPELS Firm F-124



Trey O'Connor, E.I.T.
Project Geotechnical Engineer

TO/TGH/to

Attachments: 1) TWE Itemized Budget Estimate



Tyler G. Henneke, P.E.
Vice President

2455 West Cardinal Drive, Suite A - Beaumont, Texas 77705 - Phone: (409) 840-4214 - www.tweinc.com

Proposed Budget Estimate					
Description		Unit	Quantity	Rate	Extension
Pre-Commencement Activities					
1	Project Setup/Coordination/Scheduling	lump sum	1	\$300.00	\$300.00
Field Program - Test Borings					
2	Transports of Geotechnical Drilling Equipment/Personnel	each	2	\$300.00	\$600.00
3	Drilling/Sampling/Grouting	day	1	\$2,200.00	\$2,200.00
4	Senior Technician	day	1	\$825.00	\$825.00
5	Support Vehicles	trip	1	\$175.00	\$175.00
6	Field Services Supervisor	hour	1	\$95.00	\$95.00
Laboratory Testing					
7	Standard Geotechnical Index/Strength Testing	foot	80	\$12.00	\$960.00
8	One-Dimensional Consolidation (ASTM D2435)	each	2	\$400.00	\$800.00
9	Analytical Laboratory Testing (ASTM D512)	each	4	\$55.00	\$220.00
Engineering Analysis/Report Preparation					
10	Senior Project Manager	hour	4	\$200.00	\$800.00
11	Project Professional	hour	20	\$130.00	\$2,600.00
12	Staff Professional	hour	4	\$100.00	\$400.00
Total Budget Estimate					\$9,975.00

TOLUNAY-WONG ENGINEERS, INC.

AS OF 3/1/2022

DUNS Unique Entity ID 806782520	SAM Unique Entity ID DJV5DEYW6QB7	CAGE / NCAGE 3C6S8
Purpose of Registration All Awards	Registration Status Active	Expiration Date Sep 7, 2022
Physical Address 10710 S Sam Houston PKWY W Houston, Texas 77031-3054 United States	Mailing Address 10710 S. Sam Houston PKWY. W., STE 100 Houston, Texas 77031-3054 United States	

Business Information

Doing Business as (blank)	Division Name Headquarter	Division Number 10
Congressional District Texas 09	State / Country of Incorporation Texas / United States	URL HTTPS://WWW.TWEINC.COM

Registration Dates

Activation Date Sep 8, 2021	Submission Date Sep 7, 2021	Initial Registration Date Jan 15, 2003

Entity Dates

Entity Start Date Aug 6, 1993	Fiscal Year End Close Date Dec 31

Immediate Owner

CAGE (blank)	Legal Business Name (blank)

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors Subchapter S Corporation
Profit Structure For Profit Organization		

Socio-Economic Types
Minority Owned Business
Asian-Pacific American Owned

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Other Entity Qualifiers

Community Development Corporation

Financial Information

Accepts Credit Card Payments
No

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
3C6S8

Points of Contact**Electronic Business**

☒
Daniel O. Wong, President

10710 S. Sam Houston PKWY W., #100
Houston, Texas 77031
United States

Government Business

☒
Daniel O. Wong, President

10710 S. Sam Houston PKWY W. #100
Houston, Texas 77031
United States

Past Performance

☒
Arthur Stephens, Executive Vice President

10710 S. Sam Houston PKWY W.
STE. 100
Houston, Texas 77031
United States

Patrick J. Kenney, Senior Vice President

10710 South Sam Houston Parkway West
Suite 100
Houston, Texas 77031
United States

Service Classifications**NAICS Codes**

Primary
Yes

NAICS Codes
541330
541360
541380
562910

NAICS Title
Engineering Services
Geophysical Surveying And Mapping Services
Testing Laboratories
Remediation Services

Product and Service Codes

PSC

PSC Name

C219

Architect And Engineering- General: Other

F999

Other Environmental Services

Disaster Response

Yes, this entity appears in the disaster response registry.

States

Counties

Metropolitan Statistical Areas

Louisiana

New Mexico

Texas



PROPOSAL FOR LAND SURVEYING SERVICES

February 10, 2022

Lewis Bernard, P.E.
Transmission & Utilities-Southeast

Freese and Nichols, Inc.
900 Camp St. Suite 354
New Orleans, LA. 70120

Ref: Request for Proposal for a Topographic Survey for Jefferson County
Drainage District No. 7 Crane Bayou Pump Station.

Dear Mr. Bernard:

MBCO Engineering, LLC (MBCO) is pleased to submit this proposal for professional surveying services for the scope provided by Freese and Nichols (FNI) on February 10, 2022 through email.

SCOPE OF LAND SURVEYING SERVICES

- MBCO will perform a Topographic Survey that meets the standards contained in the Manual of Practice for Land Surveying in the State of Texas for a Category 6, Condition II survey for the area shown in Exhibit "A".
- MBCO will establish project control based on the Texas Coordinate System of 1983 (NAD83), South Central Zone No. 4204 utilizing a vertical datum of NAVD88 (2001 Adjustment) Geoid18 based on static GPS observations processed through the NGS OPUS website.
- MBCO will locate all visible improvements within the project area including but not limited to all paving, manholes, inlets, valves, signs, fences, culverts, driveways, structures, power poles etc.
- MBCO will provide inverts on all accessible manhole and inlet structures.
- MBCO will collect data on all indications of the routing of underground utilities and piping within the project area.
- MBCO will collect data at 50-foot intervals and all noticeable grade changes across the sites natural ground areas.
- MBCO will survey the location of the buildings on site and provide the ground level finished floor elevation.
- MBCO will set two (2) temporary benchmarks on site.



WBE | DBE
SBE | HUB
CERTIFIED

ASSUMPTIONS AND EXCLUSIONS:

- MBCO will need to be given access to the areas needed to perform our services per this proposal in a timely manner.
- MBCO will not be providing a boundary survey or any boundary information as part of this survey proposal.
- MBCO is not responsible for toning the location of underground utilities
- MBCO will not collect any data below the water's elevation.

If any of the above said Assumptions are not provided for and/or adhered to, MBCO will initialize a change order to compensate for the additional time spent at a rate of \$165/hour for a Two-Man Survey Crew and \$125/hour for Survey Tech. Additionally, this rate applies to all future mobilizations with a minimum of 5 hours field crew time and a minimum of 4 hours of office technician time.

DELIVERABLES:

- MBCO will provide a signed and sealed Topography Survey on a scale specified by Freese and Nichols.
- A Point File in the standard ASCII (P, N, E, Z, D) format.
- 2020 Civil3D (.dwg) file of the project survey per FNI standards.
- Digital Terrain Model in AutoCAD 2020 format.

SCHEDULE:

MBCO will complete the above-described tasks within thirty (30) calendar days starting from the immediately following work calendar day from the date when we receive the Notice to Proceed.

COMPENSATION:

The estimated cost for the above-described professional services shall be a **Lump Sum** fee and billed at a percentage complete basis at the end of every month during the duration of the project.



WBE | DBE
SBE | HUB
CERTIFIED

Total Fee of all Tasks \$7,969.00

This cost proposal is valid for 30 days and may be re-evaluated after such time to account for any changes with the project scope, environmental factors and/or the general rate schedule.

If this proposal is acceptable, please sign and return a copy. If you have any questions you may reach me at Marion.Clark@mbcoengineering.com.

Thank you for the opportunity and we appreciate doing business with you.

Marion Clark, RPLS

A handwritten signature in cursive script that reads "Marion Clark".

Vice President, Surveying

Exhibit "A"
Project Limits





WBE | DBE
SBE | HUB
CERTIFIED

GENERAL TERMS AND CONDITIONS

1. **Access To Site** - Unless otherwise stated, MBCO will have access to the site for activities necessary for the performance of the services. MBCO will take all commercially reasonable precautions to minimize damage due to these activities but has not included in the fee the cost of restoration of any resulting damage.

2. **Ownership Of Documents** - Client acknowledges that all original papers, documents, maps, surveys, digital data and other work product and copies thereof, whether produced by MBCO (collectively, the "MBCO IP") shall remain the property of MBCO, except documents which are to be filed with public agencies. MBCO grants to Client a non-exclusive license to use the MBCO IP solely for the business relationship between MBCO and Client. Client further acknowledges that Client's right to utilize the MBCO IP pursuant to this agreement will continue only so long as Client is not in default pursuant to the terms and conditions of this Agreement and Client has performed all obligations under this Agreement.

3. **Copyright** - The parties agree that all protections of the United States and Texas copyright laws shall be applicable to the MBCO IP to the benefit of MBCO, including common law and statutory law, whether or not any copyright for such work product actually is registered, and without regard to whether or not such copyright actually applies to such work product.

4. **Invoices** - Invoices for fees and all other charges will be submitted monthly for all services rendered as the work progresses, and the net amount shall be due and payable as of the date of the invoice (the "Due Date") at MBCO's office in Houston, Harris County, Texas. Any sums not paid by the Due Date shall bear interest at the highest rate allowed by law (measured on a per diem basis) until paid in full. In the event Client pays by check and such check is returned for non-sufficient funds, Client shall be liable for all costs and expenses related therefrom incurred by MBCO. In addition to the foregoing, in the event MBCO engages legal counsel to collect any sums due and owing by Client, Client shall be liable for all reasonable attorney's fees and all other costs and expenses incurred by MBCO in relation to such collection efforts.

5. **Default** - Should Client (i) fail to perform, observe or keep any of its obligations under this Agreement, any agreed upon proposal(s) or any other document or instrument entered into by and between the Client and MBCO; (ii) fail to pay when due the full amount of any sums owed to MBCO; (iii) become insolvent, have a petition in bankruptcy filed by or against it prior to full payment to MBCO or (iv) violate any of the terms of this Agreement, any agreed upon proposal(s) or any other document or instrument entered into by and between the Client and MBCO, MBCO may at its option do any one or more of the following: (i) terminate this Agreement and retain all sums paid to MBCO, not as a penalty, but as the agreed upon liquidated damages for such default; (ii) declare all unpaid amounts owed immediately due and payable without further notice or demand and will thereafter bear interest at the highest rate allowed by law (measured on a per diem basis) until paid; and/or (iii) pursue any other remedies available at law or equity. Client hereby expressly agrees that Client shall be responsible for all costs incurred or sums advanced (including, without limitation, reasonable attorney's fees and associated costs) in relation to any remedy utilized.

6. **Client's obligation to pay** - Client's obligation to pay is solely that of Client, and the acts or omissions of any third party shall not affect that obligation. All sums due and not received by the Due Date shall be construed as past due. To cover the costs of collection, all past-due amounts will bear interest at one and one half percent (1.5%) or the highest rate allowed by law (measured on a per diem basis) or until paid in full. The Client shall pay any attorney's fees or court costs incurred in collecting any past-due amount. In the event that Client fails to pay MBCO within thirty (30) days after invoices are rendered, then Client agrees that MBCO shall have the right to stop or suspend work and consider the non-payment as grounds for a total breach of this Agreement.

7. **Termination Of Services** - This Agreement may be terminated by either party upon five (5) days' written notice, by mutual consent or in the event of persistent failures of performance of material terms and conditions of this Agreement by the other party through no fault of the terminating party. MBCO shall then be paid for the services completed up to the time of the termination date based upon the attached Rate Schedule.

8. **Dispute Resolution** - Claims or disputes in connection with the services provided under this agreement between Client and MBCO shall be submitted to non-binding mediation. Client and MBCO agree to include a similar mediation agreement with all contractors, subcontractors, subconsultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between all parties.

9. **Governing Law** - This Agreement shall be construed and enforced in accordance with the laws of Texas.

10. **Limitation Of Liability** - Client acknowledges and agrees that under no circumstances shall MBCO be liable in any manner for delay or deficiency in any performance on any matter caused in whole or in part by acts or omissions of third parties, delays, failures to perform, or any delays due to fire, flood, water, the elements, labor disputes, shortages of labor or materials, explosions, civil disturbances, governmental actions, unavailability of transportation, or any other cause beyond MBCO's reasonable control. BECAUSE IT IS EXTREMELY DIFFICULT TO FIX THE ACTUAL DAMAGES, IF ANY, WHICH MAY RESULT FROM ANY FAILURE ON THE PART OF MBCO TO PERFORM ANY OF ITS OBLIGATIONS HEREUNDER AND BECAUSE CLIENT DOES NOT DESIRE THE AGREEMENT OR THESE TERMS AND CONDITIONS TO PROVIDE FOR FULL LIABILITY OF MBCO, CLIENT



WBE | DBE
SBE | HUB
CERTIFIED

AGREES THAT MBCO SHALL BE EXEMPT FROM ANY AND ALL LIABILITY FOR ANY LOSS, DAMAGE AND/OR INJURY DUE TO A FAILURE OF THE WORK AND/OR MATERIALS IN ANY RESPECT THAT IS NOT WITHIN THE REASONABLE CONTROL OF MBCO. CLIENT FURTHER ACKNOWLEDGES AND AGREES THAT MBCO SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES RESULTING FROM, ARISING OUT OF OR IN CONNECTION WITH THE WORK, THE MATERIALS OR ANY MATTER RELATED THERETO. IN ANY EVENT MBCO IS FOUND LIABLE FOR LOSS, DAMAGE, AND/OR INJURY DUE TO A FAILURE OF THE SERVICES IN ANY RESPECT, MBCO'S LIABILITY SHALL BE NO GREATER THAN A SUM EQUAL TO THE AMOUNT PAID BY CLIENT TO MBCO, AS THE AGREED UPON DAMAGES, NOT AS A PENALTY, BUT AS THE EXCLUSIVE REMEDY, AND THAT THE PROVISIONS OF THIS SECTION SHALL APPLY REGARDLESS OF WHETHER SUCH DAMAGE, INJURY AND/OR LOSS WAS DUE DIRECTLY OR INDIRECTLY FROM THE NEGLIGENCE, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF MBCO OR ANY PARTY UNDER ITS REASONABLE CONTROL OR ARISING OUT OF STRICT LIABILITY IN TORT, BREACH OF CONTRACT, BREACH OF WARRANTY OR OTHERWISE. CLIENT FURTHER ACKNOWLEDGES AND AGREES THAT THE INCLUSION OF THIS PARAGRAPH WAS A MATERIAL CONSIDERATION FOR MBCO TO ENTER INTO THE AGREEMENT.

11. **No Warranties** - AS TO THE SERVICES PROVIDED, MBCO SHALL USE ALL COMMERCIALY REASONABLE EFFORTS TO ENSURE THE SERVICES ARE SUBSTANTIALLY CORRECT. HOWEVER, MBCO MAKES NO EXPRESS REPRESENTATIONS OR WARRANTIES AND DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF TITLE, WARRANTIES OF MERCHANTABILITY, WARRANTIES OF QUALITY AND/OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. MBCO DOES NOT AUTHORIZE ANYONE TO MAKE A WARRANTY OF ANY KIND ON ITS BEHALF AND CLIENT MAY NOT RELY ON ANY STATEMENT OF WARRANTY. CLIENT HEREBY EXPRESSLY ACKNOWLEDGES THAT CLIENT IS NOT RELYING ON THE STATEMENTS, REPRESENTATIONS OR ACTIONS OF ANY EMPLOYEE, REPRESENTATIVE, AGENT OR CONTRACTOR OF MBCO IN ANY WAY. THIS SECTION SHALL SURVIVE THE COMPLETION, EXPIRATION OR TERMINATION OF THIS AGREEMENT.

12. **Authority** - Client affirmatively represents and states that he/she is authorized to enter into this Agreement, either as the owner or an officer of (Company Name), or as Company's duly authorized agent, trustee, or receiver for the purpose of entering into this Agreement.

13. **Professional Services** - All surveying services are regulated under the Texas Board of Professional Engineers and Land Surveyors. The Board can be contacted at 1917 S. Interstate 35, Austin, Texas 78741.

14. **Use of Work Product** - MBCO acknowledges that Client is requesting services to be performed under the applicable agreed upon proposal(s) for the purpose of providing such information to other parties including, but not limited to, clients, customers, governmental entities and other interested parties. Client agrees that the work product prepared by MBCO may not be altered in any way except for the addition of page numbers or exhibit captions necessary to incorporate that work product into other documents. MBCO agrees to provide copies of the work product mutually agreed upon by both parties described in the proposal hereof.

15. **No Accord and Satisfaction** - The parties hereto expressly agree that no payment made by Client or on behalf of Client of a lesser amount than the required amount shall be deemed an accord and satisfaction, regardless of any statement on any check or accompanying letter to the contrary, and MBCO is hereby authorized to accept such payment(s) without prejudice to its rights to recover any balance due

16. **Entire Agreement; Amendments and Waivers; Successors and Assigns** - The Agreement (and the proposal to which this is attached) constitutes the entire agreement between the parties hereto pertaining to the subject matter hereof and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written, of the parties. No amendment, supplement, modification or waiver of this Agreement shall be binding unless executed in writing by the Party to be bound thereby. The failure of either Party to this Agreement to enforce any of its terms, provisions or covenants shall not be construed as a waiver of the same or of the right of such Party to enforce the same. Waiver by either Party hereto of any breach or default by any other Party of any term or provision of this Agreement shall not operate as a waiver of any other breach or default. The provisions of this Agreement shall be binding upon and inure to the benefit of the heirs, personal representatives, successors, and assigns of the parties. Notwithstanding the foregoing, the Client may not assign any part of this Agreement without the express written consent of MBCO.

17. **Severability; Survival** - Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision (or any section of any provision) of this Agreement is held to be prohibited by or invalid under applicable law, such provision (or any section of any provision) shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of the Agreement. The parties expressly agree that the indemnities, covenants and agreements contained in this Agreement shall survive the completion, expiration or termination of this Agreement.



WBE | DBE
SBE | HUB
CERTIFIED

18. **Contract Negotiation** - Client shall bear all MBCO's costs and expenses (including legal costs) in the event Client wishes to negotiate any proposal(s), this Agreement or any other document or instrument entered into by and between the Client and MBCO, or any part thereof.

19. **Conflicting Terms** - In the event of any conflict between the terms and conditions set forth in this Agreement and any other terms and conditions set forth in any proposal(s) or any other document or instrument entered into by and between the Client and MBCO, the terms and conditions set forth in this Agreement shall control for all intent and purposes.

MBCO Engineering, LLC (MBCO)

Freese and Nichols, Inc.

Signature _____

Signature _____

Date _____

Date _____

Printed Name _____

Printed Name _____

Title _____

Title _____

MBCO ENGINEERING, LLC

AS OF 3/1/2022
O. West

DUNS Unique Entity ID 082279623	SAM Unique Entity ID LNGAHMBMAZE3	CAGE / NCAGE 87UU5
Purpose of Registration All Awards	Registration Status Active	Expiration Date Jan 6, 2023
Physical Address 1505 Highway 6 S STE 180 Houston, Texas 77077-1726 United States	Mailing Address 1505 Highway 6 S STE 180 Houston, Texas 77077-1726 United States	

Business Information

Doing Business as (blank)	Division Name (blank)	Division Number (blank)
Congressional District Texas 07	State / Country of Incorporation Texas / United States	URL https://www.mbcengineering.com/

Registration Dates

Activation Date Jan 10, 2022	Submission Date Jan 6, 2022	Initial Registration Date Dec 10, 2018

Entity Dates

Entity Start Date Feb 5, 2015	Fiscal Year End Close Date Dec 31

Immediate Owner

CAGE (blank)	Legal Business Name (blank)

Highest Level Owner

CAGE (blank)	Legal Business Name (blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure Partnership or Limited Liability Partnership	Entity Type Business or Organization	Organization Factors Subchapter S Corporation
Profit Structure For Profit Organization		

Self Certified Small Disadvantaged Business
Economically Disadvantaged Women Owned
Small Business
Woman Owned Small Business
Woman Owned Business
DOT Certified DBE

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
No	No

EFT Indicator	CAGE Code
0000	87UU5

Points of Contact**Electronic Business**

☒	1505 Highway 6 S STE 180
Callie Bletsch, Sr Vice President	Houston, Texas 77077
	United States

Government Business

☒	1505 Highway 6 S STE 180
Callie Bletsch, Sr Vice President	Houston, Texas 77077
	United States

Service Classifications**NAICS Codes**

Primary	NAICS Codes	NAICS Title
Yes	541330	Engineering Services
	221320	Sewage Treatment Facilities
	541340	Drafting Services
	541370	Surveying And Mapping (Except Geophysical) Services
	541620	Environmental Consulting Services

Disaster Response

This entity does not appear in the disaster response registry.



JEFFERSON COUNTY PURCHASING DEPARTMENT
Deborah L. Clark, Purchasing Agent

1149 Pearl Street, 1st Floor, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

June 22, 2021

Request for Statements of Qualification (RFQ 21-015/JW)
Professional Engineering Services for Drainage Improvements:
Crane Bayou Pump Station Building and Generators

(Community Development Block Grant - Disaster Recovery) Program Project for Jefferson County

Dear Vendors:

You are invited to submit a statement of qualifications in accordance with (RFQ 21-015/JW) Professional Engineering Services for Drainage Improvements: Crane Bayou Pump Station and Generators (Community Development Block Grant - Disaster Recovery) Program Project for Jefferson County (GLO Contract No. 20-065-121-C408). Jefferson County is soliciting statements of qualifications from qualified engineering firms registered in the state of Texas to carry out the approved activities for a drainage improvements project for the Crane Bayou Pump Station. Firms should have past experience with federally funded programs.

All interested individuals and firms shall obtain a "Request for Qualifications" packet from the Jefferson County Purchasing web site at <http://co.jefferson.tx.us/Purchasing>

All submittals shall be evaluated by a Selection Committee. The Selection Committee will evaluate submissions to this request and select the firm most qualified, responsive, and experienced.

Responses are to be sealed and addressed to the Purchasing Agent with the request for qualifications number and name marked on the outside of the envelope or box. All responses shall be submitted with an original and (4) four copies, to the Jefferson County Purchasing Department, 1149 Pearl Street, 1st Floor, Beaumont, Texas 77701, no later than 11:00 am CT, Wednesday, July 21, 2021. Jefferson County does not accept responses submitted electronically. Responses will be publicly opened and the names of responding firms will be read aloud in the Jefferson County Engineering Department Conference Room (5th Floor, Historic Courthouse) 1149 Pearl Street, Beaumont, Texas 77701 at the time and date below. Statements of Qualifications received after that time will be considered late and will be returned unopened. Inquiries shall be directed to Jamey West, Assistant Purchasing Agent at 409-835-8593 or jwest@co.jefferson.tx.us

REQUEST NAME: Professional Engineering Services for Drainage Improvements: Crane Bayou Pump Station Building and Generators (Community Development Block Grant – Disaster Recovery) Program Project for Jefferson County

REQUEST NO.: RFQ 21-015/JW

DUE DATE/TIME: 11:00 am CT, Wednesday, July 21, 2021

MAIL OR DELIVER TO: Jefferson County Purchasing Department
 1149 Pearl Street, 1st Floor
 Beaumont, TX 77701

Jefferson County encourages Disadvantaged Business Enterprises to participate in the qualifications submission process. Jefferson County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provisions of services. Individuals requiring special accommodations are requested to contact our office at 409-835-8593 to make arrangements no later than seven (7) calendar days prior to the submittal deadline. Jefferson County reserves the right to accept or reject any or all proposals, to waive technicalities and to take whatever action is in the best interest of Jefferson County.

We look forward to your active participation in this solicitation.

Sincerely,

Deborah L. Clark, Purchasing Agent
 Jefferson County, Texas

Published: Beaumont Enterprise and Port Arthur News: June 23 & June 30, 2021 / The Examiner: June 24, 2021

Table of Contents

Table of Contents	1
Section 1: Introduction and Purpose	3
Section 2: Scope of Work.....	3
Section 3: Statement of Qualifications.....	4
Section 4: Procedure.....	5
Section 5: Selection Committee	5
Section 6: Laws and Regulations	6
Section 7: Insurance.....	6
Section 8: Workers' Compensation Insurance	6
Section 9: Confidential/Proprietary Information.....	8
Section 10: Terms and Conditions	8
Section 11: Tentative Schedule of Events	10
Section 12: Respondent Rating Criteria.....	10
Section 13: Submission Requirements.....	11
Evaluation Rating Sheet (SAMPLE).....	13
Respondent Information Form.....	15
Vendor Reference Form (One).....	16
Vendor Reference Form (Two).....	17
Vendor Reference Form (Three)	18
(SAMPLE) Contract Document	19
Proof of System for Award Management (SAM) Registration (INSERT HERE PAGE)	29
Certificate of Insurance (INSERT HERE PAGE)	30
FORM 1295 (Texas Ethics Commission Requirement) (SAMPLE)	31
Offer to Contract Form	32
Acceptance of Offer Form.....	33
Signature Page	34
House Bill 89 Verification.....	35
Senate Bill 252 Certification.....	36
Jefferson County Section 3 Policy	37
Equal Opportunity Guidelines for Construction Contractors	38
Section 3 Utilization Plan and Statement of Compliance	39
Section 3 Business Concern Self-Certification Form	45
GLO Compliance Package/GLO Information Security Appendix	46
GLO Compliance Package/GLO Contractor Proposal Certification	48
GLO Compliance Package/GLO Certification of Offeror – Civil Rights and Regulations	49
Conflict of Interest Questionnaire	51

Table of Contents (Continued)

Certification Regarding Lobbying	53
Disclosure of Lobbying Activities	55
Local Government Officer Conflict Disclosure Statement Forms (OFFICE USE ONLY).....	56
Federal Labor Standards Provisions.....	57
Title 29: Labor	62
Contractor Certifications.....	67
Non-Collusion Affidavit.....	70
Certificate from Subcontractor/Supervision of Payment.....	71
Section 3 Complaint Register	72
Good Faith Effort Determination Checklist.....	82
Notice of Intent	83
HUB Subcontracting Participation Declaration Form	84
Residence Certification/Tax Form	88
Required Federal Contract Provisions.....	89
Respondent's Affidavit.....	127
EXHIBIT A.....	Included in this Document

Response Submissions:

Respondent is responsible for submitting: One (1) original and four (4) response copies; with all copies to include a completed copy of this specifications packet, in its entirety.

Additionally, Bidder must monitor the Jefferson County Purchasing Department Website (below) to see if addenda or additional instructions have been posted. Failure to return all required forms could result in a response being declared as non-responsive. <http://www.co.jefferson.tx.us/purchasing/main.htm>

Section 1. Introduction and Purpose:

Hurricane Harvey overwhelmed the drainage system of Jefferson County, Texas (County). Heavy rainfall caused flooding of homes and streets. This inundated the drainage system and threatened public health, safety, and welfare.

In response to the identified needs for drainage improvements, Jefferson County has applied for the upcoming Community Development Block Grant – Disaster Recovery funding from the General Land Office – Community Development & Revitalization (GLO).

Section 2. Scope of Work:

Should these grant funds be secured from the GLO, the County will seek to contract with a qualified and competent Engineering Firm to carry out the approved activities for a drainage improvements project for the Crane Bayou Pump Station. This project will provide the Jefferson County Drainage District No. 7 Crane Bayou Pump Station with new generators and generator housing. The generators will allow the pump station to continue to operate in the event of power outages during pumping operations, especially during major storm events. The proposed project will consist of providing a new concrete building designed to handle hurricane force winds, two (2) 80 kW diesel generators, automatic transfer switch/switchgear, vaulted external tanks and belly tanks, SCADA system modifications, and piping/electrical wiring.

Background Information and Special Project Requirements: This levee is partially owned by the United States Army Corps of Engineers (USACE). Project will require the awarded/contracted engineering firm to perform USACE permitting activities associated with the site, and potentially permitting activities for other impacted parties. The awarded/contracted engineering firm will ensure that construction is consistent with HUD defined Critical Actions under 55.2(3)(b)(i) and HUD federal register notice relating to elevation and/or flood proofing requirements.

Project Location / Approximate Latitude & Longitude:

DD7 Levee Road
29.929227, -93.880833

The awarded/contracted Engineering Firm will be expected to provide for this project:

- **Engineering Design Services**
- **Bidding Services**
- **Construction Administration Services**

Additional information regarding project location can be viewed on **EXHIBIT A** (included in this specifications document).

As this project is to be grant funded, the County maintains the right to contract engineering services (under this RFQ) as needed as the scope of services/projects funded are subject to change depending upon grant funds received.

Project Completion Time:

Engineering Design Services should be completed within four (4) months; with additional time by the awarded/contract firm to be allotted to provide both Bidding and Construction Services which are included in the scope of services.

Engineering Firm providing these services must:

Be led by a principal or partner of an established professional firm or organization;
Have demonstrated ability to work successfully with government entities including:

- a. No previous record of default on a government contract;
- b. No applicant entity, or principal thereof, may be awarded a Federal contract if subject to a debarment, suspension, or limited denial of participation under 24 CFR Part 24;
- c. No formal debarment or suspension from entering into contracts with a governmental agency or other notification of ineligibility or prohibition against bidding or proposing on government contracts; and
- d. A clear understanding of, and ability to comply with, state, federal, and grant funding requirements as defined in this RFQ.

Section 3. Statement of Qualifications Requirements

Qualifications Statement Format Requirements:

- Responses must be prepared in such a way as to provide a straight-forward, concise description of capabilities to satisfy the requirements of the RFQ. Expensive bindings and promotional materials are not necessary or desired. Emphasis should be on conformance to the RFQ instructions, responsiveness to the RFQ requirements, and on completeness and clarity of content. The County also requests that responses not be stapled or have glued bindings/covers.
- All responses shall be submitted with an original and (4) four copies
- **Maximum of (30) pages**, typed, front and back or single sided, with each page clearly numbered at the bottom of the page.

Note: The inclusion of these specifications (128 pages) in their entirety, completed FORM 1295, SAM Registration Status/Proof, and Certificate of Insurance documents are not to be included in response page count.

Qualifications Statement Information Requirements:

Jefferson County is seeking to contract with a competent and professional engineering firm, registered to practice in the State of Texas and in good standing (per the Texas Engineering Practice Act), that has had experience in the following areas:

- Municipal construction including but not limited to waterworks, projects;
- Federally-funded construction projects; and
- Projects located in this general region of the state

Offerors should also address the following topics within their response:

- Name of the firm wishing to contract with the County.
- Firm's local address.
- Firm's corporate or main office address.
- Number of years the firm has been in business.
- Firm's organization chart
- Names, titles, address, and telephone numbers of persons who are authorized to negotiate for and contractually bind the firm. One of these persons should sign the response. A contact must be named for addressing questions generated during the evaluation process.
- Description of the reasons why the firm would be uniquely qualified to provide Professional Engineering Services to Jefferson County.
- Brief history your firm, including general background, knowledge of and experience working with relevant agencies, with an emphasis on recent experience;
- Brief statement of the respondent's understanding of the services required and qualifications necessary to provide CDBG-DR Engineering Services;
- Brief summary of the overall capabilities of staff and any proposed sub-contractors relative to CDBG-DR Engineering Services as outlined in the scope of work, as well as staffing plans clearly stating how they intend to integrate staff and maintain presence with the County throughout the duration of the contract; and capability of meeting deadlines.
- Proof of proper and valid licensing to conduct business in Jefferson County and the State of Texas

- Proof of Current Applicable Department of Professional Regulation License(s)
- Proof of Other Current Applicable Certification(s)
- Copy of your current Certificate of Insurance for professional liability.

Note: Upon award, firm must provide a certificate of insurance that meets/exceeds insurance requirements as written on **Pages 6-8 (Sections 7 & 8)** of these specifications.

- List of past local government clients, as well as resumes of all engineers/staff persons that will or may be assigned to this project if you receive the engineering contract award.
- Description of work performance and experience with Engineering Services for CDBG Disaster Recovery or similar grant-funded projects (within the past five years) including a list of at least three references from past local government clients or other applicable clients, with information describing the recency and relevancy of the previous performance and experience;
- Description of your firm's capacity to perform as well as resumes of all employees who will or may be assigned to provide technical assistance if your firm is awarded this Engineering Services contract, identifying current employees and proposed hires; and
- Statement substantiating the resources of the proposing entity and the ability to carry out the scope of work requested within the proposed timeline.
- **Three (3) COMPLETED & SIGNED Vendor Reference Statements (forms included in these specifications, see Pages 16-18). These statements must be completed and signed by the Reference.**

Additional Information:

Provide a listing of all current litigation(s), outstanding judgements and liens affecting the firm.

Section 4. Procedure

Firms are encouraged to submit statements of qualifications and experience. The Commissioners' Court will appoint a Selection Committee, which will evaluate qualified responses. Responses will be ranked on the basis of demonstrated experience, competence, and qualifications. Fees, price, work hours, or any other cost information will not be considered in the development of the short list. Jefferson County will then enter into negotiations with the highest qualified firm. The negotiations will first establish the scope, terms and conditions, and time limits for the proposed contract. Once agreement is reached between Jefferson County and the selected firm, the County will request a fee proposal from the firm. If agreement is reached, the County will retain the firm and enter into a written contract with it. If an agreement cannot be negotiated with the selected firm, the County will then enter into negotiations with the next most qualified firm. This procedure will continue until agreement is reached and a contract is produced. If the County cannot negotiate an agreement, the procedure will be terminated.

Section 5. Selection Committee

Because of the diversity of the departments and activities of the County, the Jefferson County Commissioners' Court will appoint the selection committee for this Request for Qualifications. The Purchasing Agent may appoint a chairperson and no less than two other members for the committee. Typically, the committee will consist of at least one elected official, one professional in the task required, a person knowledgeable about procurement practices, and either a representative of the department requesting the project, or the department executing the project. However, this structure is not binding. Other members may be appointed as necessary and appropriate, but the total number of persons on the selection committee shall not exceed five persons. Committee appointments shall be in writing and shall briefly describe the scope of the project and, if necessary, the primary disciplines required to accomplish the project, in order to assist the committee in developing a list of firms that might best accomplish the work required. Committee membership and project requirements will vary from project to project; therefore, a firm rated number one for one project could very well not even be rated for another.

Section 6. Laws and Regulations

The selected Engineering Firm(s)/Individual(s) must comply with all laws, ordinances, and rules and regulations which govern the work specified in this contract.

Section 7. Insurance

The contractor (including any and all subcontractors as defined in Section 8.1.3 below) shall, at all times during the term of this contract, maintain insurance coverages with not less than the type and requirements shown below.

Such insurance is to be provided at the sole cost of the contractor. These requirements do not establish limits of the contractor's liability.

All policies of insurance shall waive all rights of subrogation against the County, its officers, employees and agents.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County as additional insured.

All insurance must be written by an insurer licensed to conduct business in the State of Texas.

Minimum Insurance Requirements:

Public Liability, including Products & Completed Operations \$1,000,000

Excess Liability \$1,000,000

Property Insurance (policy below that is applicable to this project):

Improvements & Betterments Policy: Improvements/Remodeling (for Lease Tenants)

Builder's Risk Policy: Structural Coverage for Construction Projects

Installation Floater Policy: Improvements/Alterations to Existing Structure

Workers' Compensation Statutory Coverage (See Section 8 Below)

Section 8. Workers' Compensation Insurance

8.1 Definitions:

- 8.1.1 **Certificate of coverage ("Certificate")** – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement, DWC-81, DWC-82, DWC-83, or DWC-84 showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
- 8.1.2 **Duration of the project** – Includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
- 8.1.3 **Persons providing services on the project ("subcontractor") in article 406.096** – Includes all persons or entities performing all or part of the services under the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractor, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" includes, without limitation, providing, hauling or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- 8.2 The Contractor shall provide coverage, based on proper reporting of classification code and payroll amounts and filing any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.
- 8.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – refer to Section 7 above.
- 8.4 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- 8.5 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
 - 8.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
 - 8.5.2 No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate ends during the duration of the project.
- 8.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.
- 8.7 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- 8.8 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- 8.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:
 - 8.9.1 Provide coverage, based on reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all its employees providing services on the project, for the duration of the project.
 - 8.9.2 Provide to the Contractor, prior to that person beginning work on the project a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.
 - 8.9.3 Provide the Contractor, prior to the end of coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
 - 8.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:
 - 8.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and
 - 8.9.4.2 the coverage period, if the coverage period shown on the current certificate of a new certificate of coverage showing extension of coverage, prior to the end of coverage ends during the duration of the project.
 - 8.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.
 - 8.9.6 Notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

- 8.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs 8.1. – 8.7., with the certificates of coverage to be provided to the person for whom they are providing services.
- 8.10 By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the contractor who will provide services of the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- 8.11 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

Section 9. Confidential/Proprietary Information

If any material in the Statement of Qualifications is considered by Respondent to be confidential or proprietary information (including manufacturing and/or design processes exclusive to the Respondent), Respondent **must** clearly mark the applicable pages of Respondent's Statement of Qualifications to indicate each claim of confidentiality. Additionally, Respondent must include a statement on company letterhead identifying all Statement of Qualifications section(s) and page(s) that have been marked as confidential. Jefferson County will protect from public disclosure such portions of a Statement of Qualifications, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire Statement of Qualifications submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire Statement of Qualifications subject to release under the Texas Public Information Act.

By submitting a Statement of Qualifications, Respondent agrees to reproduction by Jefferson County, without cost or liability, of any copyrighted portions of Respondent's Statement of Qualifications submission or other information submitted by Respondent.

Section 10. Terms and Conditions

- a. Jefferson County reserves the right to request clarification of information submitted and to request additional information of one or more respondents.
- b. Any agreement or contract resulting from this RFQ shall be on forms approved by Jefferson County and shall contain, at minimum, applicable provisions of this document. Jefferson County reserves the right to reject any agreement that does not conform to this document and any County requirements and contracts.
- c. The Engineering Firm shall not assign any interest in the contract and shall not transfer any interest in the same without prior written consent of the County.
- d. No reports, information, or data given to or prepared by the Engineering Firm under contract shall be made available to any individual or organization by the Engineering Firm without the prior written approval of the County.

e. Vendor Registration: SAM (System for Award Management).

Vendors doing business with Jefferson County are required to be registered with The System for Award Management (SAM), with an "active" status; and shall include proof of their SAM status within their response.

The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site.

Entities may register at no cost directly from the SAM website at: <https://www.sam.gov>

f. Awarded Vendor(s): Submission of FORM 1295 (Texas Ethics Commission)

In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County will be required to complete a Certificate of Interested Parties (FORM 1295), unless contract is considered exempt as described below.

In 2017, the Texas legislature amended the law to require Form 1295 to include an "unsworn declaration" which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an "unsworn declaration."

FORM 1295 Exemptions: What type of contracts are exempt from the Form 1295 filing requirement under the amended law? The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement. A completed Form 1295 is not required for:

- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

Upon entering into a contract or professional agreement, the Jefferson County Purchasing Department will submit a request to the Vendor to both:

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below. Vendors must enter the required information on Form 1295, and print a copy of the completed form. The form will include a certification of filing that will contain a unique certification number.
2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Purchasing Department.

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

7. Minority-Women Business Enterprise Participation

It is the desire of Jefferson County to increase the participation of Minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the County does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms.

Section 11. Tentative Schedule of Events

June 22, 2021	Issuance of Request for Statements of Qualification
July 21, 2021	Deadline Submission (late responses will not be considered)
Week of July 26th	Responses distributed to Evaluation Committee
Week of August 2nd	Evaluation Committee Convenes to Tabulate Scoring and Determines Short List
Week of August 16th	Recommendation for Award/Contract Execution

Project Completion Time:

Engineering Design Services should be completed within four (4) months; with additional time by the awarded/contract firm to be allotted to provide both Bidding and Construction Services which are included in the scope of services.

Please note:

The above schedule of events is tentative in nature (excluding completion time).
Dates listed are subject to change.

Section 12. Rating Criteria

The appointed Selection Committee will consider the following criteria in evaluating responses:

a.	Experience	Maximum Points = 40
b.	Work Performance/References	Maximum Points = 40
c.	Capacity to Perform	Maximum Points = 20

For this RFQ, Respondent's qualifications will be evaluated and the most qualified Respondent will be selected, subject to negotiation of fair and reasonable compensation.

- For costs of engineering (A/E) professional services that will exceed \$50,000, negotiations, including profit as a percentage of the price of the contract, must occur after the initial selection of the engineer or architect as price cannot be used as a selection factor. (See 2 CFR 200.320(d)(5) and Texas Government Code § 2254.004) Upon the initial selection of the Respondent based on its demonstrated competence and qualifications to perform such services, the Respondent must disclose and certify the percentage of profit as a separate element of the price of the contract during its negotiations with the Grant Recipient to determine fair and reasonable compensation.

Section 13. Submission Requirements

Respondents are responsible for submitting:

One (1) original and (4) four response copies; with all copies to include a completed copy of this specifications packet, in its entirety.

Additionally, Respondent must monitor the Jefferson County Purchasing Department Website (below) to see if addenda or additional instructions have been posted. Failure to return all required forms could result in a response being declared as non-responsive.

<https://www.co.jefferson.tx.us/Purchasing/>

Responses shall be mailed or delivered to:

Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, TX 77701
Attention: Deborah Clark , Purchasing Agent

All submissions must be received by 11:00 am CT, Wednesday, July 21, 2021.

Jefferson County will not accept any submissions received after the stated time and date, and shall return such submissions unopened to the Respondent.

Jefferson County will not accept any responsibility for submissions being delivered by third party carriers.

Submissions shall be tightly sealed in an opaque envelope or box and plainly marked with the RFQ Number, RFQ Name, RFQ Due Date, and the Respondent's Name and Address; and shall be addressed to the Purchasing Agent.

The County requests that response submissions NOT be bound by staples or glued spines.

Submissions will be opened publicly in a manner to avoid public disclosure of contents/however only the names of Respondents will be read aloud.

There will NOT be a Pre-Submittal Conference for this RFQ.

Deadline for Questions: In the event your firm desires additional information, Jefferson County will endeavor to provide such information; however, Jefferson County will not be responsible for any delay resulting in the respondent's inability to meet the deadline for submission of the Statement of Qualifications.

Interested parties may provide written questions to Jamey West, Assistant Purchasing Agent at: jwest@co.jefferson.tx.us.

Question responses will be made available as soon as possible and posted as addendum(s) to the on the Jefferson County Purchasing Department's website.

The deadline for asking questions in writing or requesting additional information (in writing) is 5:00 pm, Wednesday, July 14, 2021.

Courthouse Security: Respondents are advised that all visitors to the Courthouse must pass through Security. Respondents planning to hand deliver bids must allow time to get through Security, as a delay in entering the Courthouse will not be accepted as an excuse for late submittal.

In response to the Covid-19 pandemic, Jefferson County has implemented precautionary measures recommended by the CDC within its facilities. At times, these precautions may slow entry into the courthouse. Respondents are strongly urged to plan accordingly.

County Holidays – 2021:

July 5, 2021	Independence Day	Monday
September 6, 2021	Labor Day	Monday
November 11, 2021	Veteran's Day	Thursday
November 25 & 26, 2021	Thanksgiving	Thursday & Friday
December 23 & 24, 2021	Christmas	Thursday & Friday
December 31, 2021	New Year's	Friday

Submissions During Time of Inclement Weather, Disaster, or Emergency:

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a bid/proposal/statement of qualifications submission deadline, the bid closing will automatically be postponed until the next business day that County offices are open to the public. Should inclement weather conditions or any other unforeseen event cause delays in courier service operations, the County may issue an addendum to all known vendors interested in the project to extend the deadline. It will be the responsibility of the vendor to notify the county of their interest in the project should these conditions impact their ability to submit a bid/proposal/statement of qualifications submission before the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

Should an emergency or unanticipated event interrupt normal County processes, and bid/proposal/statement of qualifications submissions cannot be received by the Jefferson County Purchasing Department's office by the exact time specified in the RFQ and urgent County requirements preclude amendment to the RFQ, the time specified for receipt of Statements of Qualifications will be deemed to be extended to the same time of day specified in the solicitation on the first business day on which normal County processes resume.

Professional Engineering Services Rating Sheet

Grant Recipient Jefferson County, Texas

CDBG Contract No. _____

Name of Respondent _____

Date of Rating _____

Evaluator's Name _____

Evaluator's Signature: _____

Experience -- Rate the Respondent of the Request for Qualifications (RFQ) by awarding points up to the maximum listed for each factor. Information necessary to assess the Respondent on these criteria may be gathered either from past experience with the Respondent and/or by contacting past/current clients of the Respondent.

Experience

<u>Factors</u>	<u>Maximum Points</u>	<u>SCORE</u>
1. Related Experience / Background with federally funded projects	5	_____
2. Related Experience / Background with specific project type (Federally-Funded Drainage Projects)	5	_____
3. Related experience/background with specific services (Professional Engineering Services for Drainage Projects)	20	_____
4. References from current/past clients	10	_____
Subtotal, Experience	40 possible points	TOTAL

Work Performance

<u>Factors</u>	<u>Maximum Points</u>	<u>SCORE</u>
1. Past client projects completed on schedule	20	_____
2. Work product is consistently of high quality with low level of errors	20	_____
Subtotal, Performance	40 possible points	TOTAL

Capacity to Perform

<u>Factors</u>	<u>Maximum Points</u>	<u>SCORE</u>
1. Qualifications/Experience of Staff	5	_____
2. Present and Projected Workloads	5	_____
3. Quality of Response	5	_____
4. Demonstrated understanding of scope of the project	5	_____
Subtotal, Capacity to Perform	20 possible points	TOTAL

**Professional Engineering Services Rating Sheet
(CONTINUED)**

EVALUATOR: _____

TOTAL SCORE

<u>Factors</u>	Maximum Points	<u>SCORE</u>
☐ Experience	40	_____
☐ Work Performance	40	_____
☐ Capacity to Perform	20	_____
	100	
Total Score _____	MAXIMUM POINTS	_____

Respondent Information Form

Instructions: Complete the form below. Please provide legible, accurate, and complete contact information. PLEASE PRINT.

RFQ Number & Name: (RFQ 21-015/JW) Professional Engineering Services
for Drainage Improvements:
Crane Bayou Pump Station Building and Generators
(Community Development Block Grant – Disaster Recovery)
Program Project for Jefferson County

Respondent's Company/Business Name: Freese and Nichols, Inc.

Respondent's TAX ID Number: 75-1531935

Contact Person: Alan Hutson, PE **Title:** Vice President/Principal

Phone Number (with area code): 713-600-6847

Alternate Phone Number if available (with area code): 832-867-1143

Fax Number (with area code): 817-735-7491

Email Address: alan.hutson@freese.com

Mailing Address (Please provide a physical address for bid bond return, if applicable):

10497 Town and Country Way, Suite 500

Address

Houston, Texas 77024

City, State, Zip Code

Respondent: Return This Form With Response Submission.

Vendor Reference Number One: Questionnaire Form

Respondent: Please have reference complete & sign this questionnaire form.
A total of (3) completed forms are to be submitted with your response to this RFQ.

Reference Information:

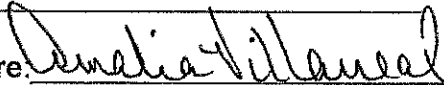
Government Entity/Company Name: City of Beaumont

Address: 801 Main Street Beaumont Texas 77701
Street/PO City State Zip

Reference Contact Person & Title: Amalia Villarreal, P.E., City Engineer

Phone: (409) 880-3725 **Alt. Phone:** (409) 785-3016 **Fax:** (409) 880-3732

Email Address: Molly.Villarreal@BeaumontTexas.gov

Reference Contact Person's Signature:  **Date:** 7/9/2021

1. Briefly Describe the work the contractor performed for your office/company/firm:

Freese & Nichols is currently designing a new raw water pump station and transmission line, as well as performing a detailed water quality study and treated water line resiliency study.

2. How well did the contractor adhere to the agreed upon schedule?

Freese & Nichols adhered well to the various project schedules. As soon as any changes to the schedule were identified, we were notified right away to best keep the projects on schedule.

3. How would you rate the contractor's quality of work?

Freese & Nichols work is always of the highest quality.

4. How would you rate the contractor's use of adequate personnel in quantity, experience, and profession?

Freese & Nichols has always brought subject matter experts to the various projects, and have a good project team. Team size and experience has been appropriate for each project.

5. How would you rate the contractor's use of appropriate engineering/project management methods?

Freese & Nichols has done a great job of applying appropriate engineering and project management methods to the various projects. Their use of Teams integrated well with our Teams system.

Respondent: Return This Form With Response Submission.

Vendor Reference Number Two: Questionnaire Form

Respondent: Please have reference complete & sign this questionnaire form.
A total of (3) completed forms are to be submitted with your response to this RFQ.

Reference Information:

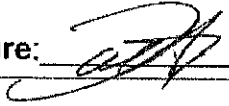
Government Entity/Company Name: City of Freeport

Address: 510 S. AVE A Freeport TX 77541
Street/PO City State Zip

Reference Contact Person & Title: LANCE PETTY Director of Public Works

Phone: (979) 233-4241 Alt. Phone: (979) 709-5700 Fax: ()

Email Address: lpetty@freeport.tx.us

Reference Contact Person's Signature:  Date: 7/9/2021

1. Briefly Describe the work the contractor performed for your office/company/firm:

multiple storm water pump station rehabilitations.

multiple water/wastewater infrastructure rehabilitations

2. How well did the contractor adhere to the agreed upon schedule?

Very well - on schedule

3. How would you rate the contractor's quality of work?

Exceptional

4. How would you rate the contractor's use of adequate personnel in quantity, experience, and profession?

Very Adequate

5. How would you rate the contractor's use of appropriate engineering/project management methods?

Exceptional

Respondent: Return This Form With Response Submission.

THW
Vendor Reference Number One: Questionnaire Form

Respondent: Please have reference complete & sign this questionnaire form.
A total of (3) completed forms are to be submitted with your response to this RFQ.

Reference Information:Government Entity/Company Name: City of LubbockAddress: 1314 Ave. K
Street/POCityStateZipReference Contact Person & Title: John Turpin Asst. Dir. Director of Public WorksPhone: (806) 775-2342 Alt. Phone: (806) 773 2157 Fax: () Email Address: jturpin@mylubbock.usReference Contact Person's Signature: John Turpin Date: 07/15/21

1. Briefly Describe the work the contractor performed for your office/company/firm:

Freese and Nichols has performed numerous design and construction projects for the City. This includes modeling, pump stations, Water and Wastewater lines and Treatment.

2. How well did the contractor adhere to the agreed upon schedule?

Freese is punctual and stays on or a head of schedule on projects.

3. How would you rate the contractor's quality of work?

Freese and Nichols is a top notch engineer, with the ability to adjust and handle the work given to them.

4. How would you rate the contractor's use of adequate personnel in quantity, experience, and profession?

Freese always provides their top personnel for projects provided to the City.

5. How would you rate the contractor's use of appropriate engineering/project management methods?

Freese in my opinion could be an example for any company on how to manage a project and their customer service is great.

Respondent: Return This Form With Response Submission.

CONTRACT

PROFESSIONAL ENGINEERING SERVICES

PART I

AGREEMENT

THIS AGREEMENT, entered into this ____ day of _____, by and between the COUNTY OF Jefferson, Texas hereinafter called the "County", acting herein by _____ here unto duly authorized, and _____ hereinafter called "the Contractor", acting herein by _____.

WITNESSETH THAT:

WHEREAS, the County of Jefferson, Texas desires to implement/complete the following:

Engineering Services for Drainage Improvements: Crane Bayou Pump Station Building and Generators under the general direction of the Texas General Land Office. Whereas the County desires to engage _____ to render certain Engineering Services in connection with this Community Development Block Grant – Disaster Recovery Program , Contract Number 21-015 /JW.

NOW THEREFORE, the parties do mutually agree as follows:

1. Scope of Services
The Contractor will perform the services set out in Part II, Scope of Services.
2. Time of Performance - The services of the Contractor shall commence on _____. In any event, all of the services required and performed hereunder shall be completed no later than _____.
3. Local Program Liaison - For purposes of this Contract, The Jefferson County Judge or equivalent authorized person will serve as the Local Program Liaison and primary point of contact for the Contractor. All required progress reports and communication regarding the project shall be directed to this liaison and other local personnel as appropriate.
4. Access to Records – The Texas General Land Office, The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, the Texas Department of Agriculture (TDA), and the County, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the Engineering Services award, in order to make audits, examinations, excerpts, and transcripts, and to closeout the County's Engineering Services contract with _____.
5. Retention of Records - The Contractor shall retain all required records for three years after the County makes its final payment and all pending matters are closed.
6. Compensation and Method of Payment - The maximum amount of compensation and reimbursement to be paid hereunder shall not exceed \$_____. Payment to the Contractor shall be based on satisfactory completion of identified milestones in Part III - Payment Schedule of this Agreement.
7. Indemnification – The Contractor shall comply with the requirements of all applicable laws, rules and regulations, and shall exonerate, indemnify, and hold harmless the County and its agency members from and against any and all claims, costs, suits, and damages, including attorneys' fees, arising out of the Contractor's performance or nonperformance of the activities, services or subject matter called for in this agreement or in connection with the management and administration of the GLO contract, and shall assume full responsibility for payments of Federal, State and local taxes on contributions imposed or required under the Social Security, worker's compensation and income tax laws.

8. Miscellaneous Provisions

- a. This Agreement shall be construed under and in accord with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Jefferson County, Texas.
- b. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, executors, administrators, legal representatives, successors and assigns where permitted by this Agreement.
- c. In any case one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.
- d. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled.
- e. This Agreement may be amended by mutual agreement of the parties hereto and a writing to be attached to and incorporated into this Agreement.

9. Extent of Agreement

This Agreement, which includes Parts I-IV, *[and if applicable]*, including the following exhibits/attachments: represents the entire and integrated agreement between the County and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by authorized representatives of both County and Contractor.

The executed agreement documents shall consist of the following components:

a. This Agreement (pgs. 1-3)	f. General Conditions
b. Addenda	g. Special Conditions
c. Request for Statement of Qualifications (RFQ) in its entirety	h. [Add any applicable documents]
e. Signed Copy of RFQ	

IN WITNESSETH WHEREOF, the parties have executed this Agreement by causing the same to be signed on the day and year first above written.

BY:

 (Local County Official)

 (Printed Name)

 (Title)

BY:

 (Contractor's Authorized Representative)

 (Printed Name)

 (Title)

PART II

SCOPE OF SERVICES

The Contractor shall provide the following scope of services:

Awarded firms shall be responsible for the performance of all required Engineering Services as described within the bid specifications, addenda, and appendices for this project. All submitted responses shall be for principal firms and may include subcontractors.

A description of services that may be utilized under this RFQ includes but is not limited to:

Perform approved Engineering Services to facilitate a drainage improvements project for the Crane Bayou Pump Station. This project will provide the Jefferson County Drainage District No. 7 Crane Bayou Pump Station with new generators and generator housing. The generators will allow the pump station to continue to operate in the event of power outages during pumping operations, especially during major storm events. The proposed project will consist of providing a new concrete building designed to handle hurricane force winds, two (2) 80 kW diesel generators, automatic transfer switch/switchgear, vaulted external tanks and belly tanks, SCADA system modifications, and piping/electrical wiring.

The awarded/contracted Engineering Firm will be expected to provide for this project:

- Engineering Design Services
- Bidding Services
- Construction Administration Services
- Other special services deemed necessary for the completion of services as described with the RFQ specifications in their entirety

Additional Services (as directed by the County):

Court appearances

Any other task necessary to complete the objectives of the CDBG-DR/GLO Program.

Project Completion Time:

Engineering Design Services should be completed within four (4) months; with additional time by the awarded/contract firm to be allotted to provide both Bidding and Construction Services which are included in the scope of services.

**PART III
PAYMENT SCHEDULE**

County shall reimburse (Contractor) for Engineering Services provided and as described within this contract document and bid specifications, as follows:

(To Be Determined)

SAMPLE

PART IV TERMS AND CONDITIONS

1. **Termination for Cause.** If the Contractor fails to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor violates any of the covenants, conditions, agreements, or stipulations of this Agreement, the County shall have the right to terminate this Agreement by giving written notice to the Contractor of such termination and specifying the effective date thereof, which shall be at least five days before the effective date of such termination. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Contractor pursuant to this Agreement shall, at the option of the County, be turned over to the County and become the property of the County. In the event of termination for cause, the Contractor shall be entitled to receive reasonable compensation for any necessary services actually and satisfactorily performed prior to the date of termination.

Notwithstanding the above, the Contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of contract by the Contractor, and the County may set-off the damages it incurred as a result of the Contractor's breach of contract from any amounts it might otherwise owe the Contractor.

2. **Termination for Convenience of the County.** County may at any time and for any reason terminate Contractor's services and work at County's convenience upon providing written notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

[Parties should include the manner by which such termination will be affected and the basis for settlement or any other terms and conditions concerning payment upon such termination.]

3. **Changes.** The County may, from time to time, request changes in the services the Contractor will perform under this Agreement. Such changes, including any increase or decrease in the amount of the Contractor's compensation, must be agreed to by all parties and finalized through a signed, written amendment to this Agreement.
4. **Resolution of Program Non-Compliance and Disallowed Costs.** In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement, or the breach thereof including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or Texas General Land Office Community Development Block Grant-Disaster Relief program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Agreement and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the costs of such mediation equally.

If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.

5. Personnel.

- a. The Contractor represents that he/she/it has, or will secure at its own expense, all personnel required in performing the services under this Agreement. Such personnel shall not be employees of or have any contractual relationship with the County.
- b. All of the services required hereunder will be performed by the Contractor or under its supervision and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and Local law to perform such services.
- c. None of the work or services covered by this Agreement shall be subcontracted without the prior written approval of the County. Any work or services subcontracted hereunder shall be specified by written contract or agreement and shall be subject to each provision of this Agreement.

6. Assignability. The Contractor shall not assign any interest on this Agreement, and shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of the County thereto; Provided, however, that claims for money by the Contractor from the County under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment or transfer shall be furnished promptly to the County.**7. Reports and Information.** The Contractor, at such times and in such forms as the County may require, shall furnish the County such periodic reports as it may request pertaining to the work or services undertaken pursuant to this Agreement, the costs and obligations incurred or to be incurred in connection therewith, and any other matters covered by this Agreement.**8. Records and Audits.** The Contractor shall insure that the County maintains fiscal records and supporting documentation for all expenditures of funds made under this contract in a manner that conforms to 2 CFR 200.300-.309, 24 CFR 570.490, and this Agreement. Such records must include data on the racial, ethnic, and gender characteristics of persons who are applicants for, participants in, or beneficiaries of the funds provided under this Agreement. County shall retain such records, and any supporting documentation, for the greater of three years from closeout of the Agreement or the period required by other applicable laws and regulations.

- a. **Findings Confidential.** All of the reports, information, data, etc., prepared or assembled by the Contractor under this contract are confidential and the Contractor agrees that they shall not be made available to any individual or organization without the prior written approval of the County.

- b. **Copyright.** No report, maps, or other documents produced in whole or in part under this Agreement shall be the subject of an application for copyright by or on behalf of the Contractor.

- c. **Compliance with Local Laws.** The Contractor shall comply with all applicable laws, ordinances and codes of the State and local governments, and the Contractor shall save the County harmless with respect to any damages arising from any tort done in performing any of the work embraced by this Agreement.

9. Conflicts of Interest.

- a. **Governing Body.** No member of the governing body of the County and no other officer, employee, or agent of the County, who exercises any functions or responsibilities in connection with administration, construction, engineering, or implementation of the GLO award between GLO and the County shall have any personal financial interest, direct or

indirect, in the Contractor or this Agreement; and the Contractor shall take appropriate steps to assure compliance.

- b. **Other Local Public Officials.** No other public official who exercises any functions or responsibilities in connection with the planning and carrying out of administration, construction, engineering or implementation of the Engineering Services award between _____ and the County shall have any personal financial interest, direct or indirect, in the Contractor or this Agreement; and the Contractor shall take appropriate steps to assure compliance.
- c. **Contractor and Employees.** The Contractor warrants and represents that it has no conflict of interest associated with the Engineering Services award between _____ and the County or this Agreement. The Contractor further warrants and represents that it shall not acquire an interest, direct or indirect, in any geographic area that may benefit from the GLO award between GLO and the County or in any business, entity, organization or person that may benefit from the award. The Contractor further agrees that it will not employ an individual with a conflict of interest as described herein.

10. **Debarment and Suspension (Executive Orders 12549 and 12689).** The Contractor certifies, by entering into this Agreement, that neither it nor its principals are presently debarred, suspended, or otherwise excluded from or ineligible for participation in federally-assisted programs under Executive Orders 12549 (1986) and 12689 (1989). The term "principal" for purposes of this Agreement is defined as an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor. The Contractor understands that it must not make any award or permit any award (or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

Federal Civil Rights Compliance.

11. Equal Opportunity Clause (applicable to federally assisted construction contracts and subcontracts over \$10,000).

During the performance of this contract, the Contractor agrees as follows:

- a. 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.
- b. 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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- c. The Contractor will not discourage 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.

d. 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.

e. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, "Equal Employment Opportunity," and of the rules, regulations, and relevant orders of the Secretary of Labor.

f. 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.

g. 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.

h. The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (h) 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.

12. Civil Rights Act of 1964. Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, religion, sex, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

13. Section 109 of the Housing and Community Development Act of 1974. The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the ground 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 funded in whole or in part with funds made available under this title.

14. Section 504 Rehabilitation Act of 1973, as amended. The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his/her disability, be denied the benefits of, or be subjected to discrimination, including discrimination in employment, under any program or activity receiving federal financial assistance.

15. Age Discrimination Act of 1975. 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.

[If this Contract is greater than \$100,000, include the following Section 3 language:]

16. Economic Opportunities for Section 3 Residents and 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 Agreement 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 Agreement. 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 subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this Agreement 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 7(b).

SAMPLE

SYSTEM FOR AWARD MANAGEMENT (SAM) REGISTRATION

RESPONDENT INSTRUCTIONS:

INSERT PROOF OF SYSTEM FOR AWARD MANAGEMENT REGISTRATION BEHIND THIS PAGE.

(For additional information, please see Section 10 (item e, Page 8.)

Entity Registration
Exclusions
Active Exclusions
Inactive Exclusions
Responsibility / Qualification

FREES AND NICHOLS, INC.

DUNS 073177362	Unique Entity ID	Expiration Date May 4, 2022	Registration Status ● Active
SAM KKJCTMJ3H214	Unique Entity ID	Purpose of Registration All Awards	
CAGE/NCAGE 09457			
Physical Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804, United States	Mailing Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804, United States		

*The DUNS number is currently the official Unique Entity ID

Version Current Record

There may be instances when an individual or firm has the same or similar name as your search criteria, but is actually a different party. Therefore, it is important that you verify a potential match with the excluding agency identified in the exclusion's details. To confirm or obtain additional information, contact the federal agency that took the action against the listed party. Agency points of contact, including name and telephone number, may be found by navigating to the Agency Exclusion POCs page within Help.

ACTIVE EXCLUSIONS

There are no active exclusion records associated to this entity by its Unique Entity ID.

INACTIVE EXCLUSIONS

There are no inactive exclusion records associated to this entity by its Unique Entity ID.

CERTIFICATE OF INSURANCE

RESPONDENT INSTRUCTIONS:

INSERT COPY OF CERTIFICATE OF INSURANCE HERE.

UPON AWARD, THE AWARDED RESPONDENT WILL BE REQUIRED TO SUBMIT A CERTIFICATE OF INSURANCE THAT NAMES JEFFERSON COUNTY AS AN "ADDITIONAL INSURED."

For additional information, please see Sections 7 & 8 (Page 6-8).

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	
1 Name of business entity filing form, and the city, state and country of the business entity's place of business.		Must file online at www.ethics.state.tx.us/File	
2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.			
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.			
4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		☐ Controlling	☐ Intermediary
5 Check only if there is NO interested Party. ☐			
6 UNSWORN DECLARATION			
My name is _____, and my date of birth is _____.			
My address _____, _____, _____, _____, _____ (street) (city) (state) (zip code) (country)			
I declare under penalty of perjury that the foregoing is true and correct.			
Executed in _____ County, State of _____, on the _____ day of _____, 20____. (month) (year)			
_____ Signature of authorized agent of contracting business entity (Declarant)			
ADD ADDITIONAL PAGES AS NECESSARY			

CERTIFICATE OF INTERESTED PARTIES

ATTACHMENT A: PAGE A.89 of 196
FORM 1295

723

1 of 1

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:
2021-777261

Date Filed:
07/12/2021

Date Acknowledged:

1/14/2022 *anlt*

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Freese and Nichols, Inc.
Fort Worth, 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.

Jefferson County, Texas

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.

RFQ 21-015/JW

Professional Engineering Services for Drainage Improvements Crane Bayou Pump Station Building and Generators (Community Development Block Grant - Disaster Recovery) Program Project/Jefferson County

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Reedy, Mike	Houston, TX United States	X	
	Wolfhope, John	Austin, TX United States	X	
	Pence, Bob	Fort Worth, TX United States	X	
	Coltharp, Brian	Fort Worth, TX United States	X	
	Archer, Charles	Raleigh, NC United States	X	
	Cole, Scott	Fort Worth, TX United States	X	
	Johnson, Kevin	Dallas, TX United States	X	
	Greer, Alan	Fort Worth, TX United States	X	
	Payne, Jeff	Fort Worth, TX United States	X	

5 Check only if there is NO Interested Party.

☐

6 UNSWORN DECLARATION

My name is Stephanie Stephenson, and my date of birth is July 19, 1977.

My address is 801 Cherry Street, Suite 2800, Fort Worth, TX, 76102, US.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Tarrant County, State of Texas, on the 12 day of July, 20 21.
(month) (year)

Stephanie Stephenson

Signature of authorized agent of contracting business entity
(Declarant)

OFFER AND ACCEPTANCE FORM

OFFER TO CONTRACT

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer. We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): _____, _____, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

Freese and Nichols, Inc.

Company Name

10497 Town and County Way, Suite 500

Address

Houston, TX 77024

City State Zip



Signature of Person Authorized to Sign

Alan Hutson, PE

Printed Name

Vice President/Principal

Title

For clarification of this offer, contact:

Alan Hutson, PE

Name

713-600-6847

Phone

817-735-7491

Fax

alan.hutson@freese.com

E-mail

Respondent: Return This Form With Response Submission.

Acceptance of Offer

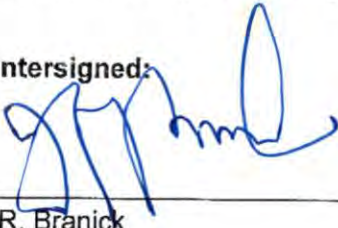
The Offer is hereby accepted for the following items:

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as Contract No. (21-015/JW) Professional Engineering for Drainage Improvements: Crane Bayou Pump Station Building and Generators (Community Development Block Grant - Disaster Recovery) Program Project for Jefferson County.

The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

Countersigned:



Jeff R. Branick
County Judge

March 8, 2022

Date

Attest:



Laurie Leister
Interim County Clerk



Respondent: Return This Form With Response Submission.

Signature Page

By submitting a response to this solicitation, the undersigned certifies that at the time of submission, he/she is not on the Federal Government's list of suspended, ineligible, or debarred contractors. In the event of placement on the list between the time of bid/proposal/qualifications submission and time of award, the undersigned will notify the Jefferson County Purchasing Agent. Failure to do so may result in terminating a contract for default.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this Statement of Qualifications in collusion with any other Respondent, and that the contents of this Statement of Qualifications as to prices, terms or conditions of said Statement of Qualifications have not been communicated by the undersigned nor by any employee or agent to any other Respondent or to any other person(s) engaged in this type of business prior to the official opening of this Statement of Qualifications. And further, that neither the Respondent nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to submit a Statement of Qualifications or not submit a Statement of Qualifications thereon.

Freese and Nichols, Inc.

Firm (Entity Name)

10497 Town and Country Way, Suite 500

Street & Mailing Address

Houston, TX 77024

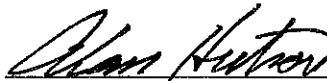
City, State & Zip

713-600-6847

Telephone Number

alan.hutson@freese.com

E-mail Address



Signature

Alan Hutson, PE

Print Name

July 21, 2021

Date Signed

817-735-7491

Fax Number

Respondent: Return This Form With Response Submission.

House Bill 89 Verification

I, Alan Hutson, PE, the undersigned representative of (company or business name) Freese and Nichols, Inc. (heretofore referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made ordinary business purposes; and

2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or an limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business association that exist to make a profit.

Alan Hutson
Signature of Company Representative

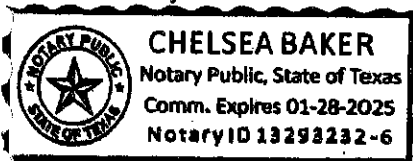
July 21, 2021

Date

On this 21 day of July, 2021, personally appeared

Alan Hutson, the above named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

Notary Seal



CPB
Notary Signature

7/21/21
Date

Respondent: Return This Form With Response Submission.

FREESE AND NICHOLS, INC.

Welft

DUNS Unique Entity ID 073177362	SAM Unique Entity ID KKJCTMJ3HZJ4	CAGE / NCAGE 094S7
Purpose of Registration All Awards	Registration Status Active	Expiration Date Sep 16, 2022
Physical Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804 United States	Mailing Address 801 Cherry ST STE 2800 Fort Worth, Texas 76102-6804 United States	

Business Information

Doing Business as (blank)	Division Name (blank)	Division Number (blank)
Congressional District Texas 12	State / Country of Incorporation Texas / United States	URL http://www.freese.com

Registration Dates		
Activation Date Sep 16, 2021	Submission Date Sep 16, 2021	Initial Registration Date Apr 9, 2002

Entity Dates	
Entity Start Date Jan 1, 1894	Fiscal Year End Close Date Dec 31

Immediate Owner	
CAGE (blank)	Legal Business Name (blank)

Highest Level Owner	
CAGE (blank)	Legal Business Name (blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types		
Entity Structure Corporate Entity (Not Tax Exempt)	Entity Type Business or Organization	Organization Factors Subchapter S Corporation
Profit Structure For Profit Organization		

Socio-Economic Types

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments
No

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
094S7

Points of Contact**Electronic Business**

James Kisiel, Program Manager

Freese And Nichols Inc
10497 Town And Country WAY, Suite 600
Houston, Texas 77024
United States

Jeff Scarborough

Freese And Nichols Inc
10497 Town And Country WAY, Suite 600
Houston, Texas 77024
United States

Government Business

Jeff Scarborough

Freese And Nichols Inc
10497 Town And Country WAY, Suite 600
Houston, Texas 77024
United States

Maria Aguilar

4055 International Plaza
STE 200
Fort Worth, Texas 76109
United States

Past Performance

Jeff Scarborough

Freese And Nichols Inc
10497 Town And Country WAY, Suite 600
Houston, Texas 77024
United States

James Kisiel, Program Manager

Freese And Nichols Inc
10497 Town And Country WAY, Suite 600
Houston, Texas 77024
United States

Service Classifications**NAICS Codes**

Primary
Yes

NAICS Codes

541330

541310

541611

541620

NAICS Title

Engineering Services

Architectural Services

Administrative Management And General Management Consulting
Services

Environmental Consulting Services

Disaster Response

Yes, this entity appears in the disaster response registry.

States

North Carolina

Oklahoma

Texas

Counties

Metropolitan Statistical Areas



Glenn Hegar
Texas Comptroller of Public Accounts



Divestment Statute Lists

The Comptroller provides the following divestment lists in connection with Tex. Govt. Code 808.051 External Link: undefined (HB 89, 85th R.S.) External Link: undefined, Tex. Govt. Code 2252.153 External Link: undefined (SB 252, 85th R.S.) External Link: undefined, and Tex. Govt. Code 2270.0209 External Link: undefined (SB 253, 85th R.S.) External Link: undefined, and for compliance with contracting requirements referenced in Tex. Govt. Code 2252.152 External Link: undefined (SB 252, 85th R.S.) External Link: undefined and Tex. Govt. Code 2270.002 External Link: undefined (HB 89, 85th R.S.) External Link: undefined.

- Companies that Boycott Israel [comptroller.texas.gov/purchasing/docs/anti-bds.pdf] — *Updated September 2021*
- Scrutinized Companies with ties to Sudan [comptroller.texas.gov/purchasing/docs/sudan-list.pdf] — *Updated November 30, 2021*
- Scrutinized Companies with ties to Iran [comptroller.texas.gov/purchasing/docs/iran-list.pdf] — *Updated November 30, 2021*
- Designated Foreign Terrorist Organizations [comptroller.texas.gov/purchasing/docs/foreign-terrorist.pdf] — *Updated June 2021*
- Scrutinized Companies with ties to Foreign Terrorist Organizations [comptroller.texas.gov/purchasing/docs/fto-list.pdf]
- FAQ for Investing Entities [comptroller.texas.gov/purchasing/docs/SB-253-guidance.pdf]

**List of Companies that Boycott Israel
Pursuant to Texas Government Code Chapter 808**

COMPANY NAME	ISSUER ID	ISIN
ASN BANK NV	ID000000002407715	US0814651065
BEN & JERRY'S HOMEMADE, INC.		
BETSAH INVEST SA		
CACTUS SA		
CO-OPERATIVE GROUP LIMITED	IID000000002241186	GB00BFXWHQ29
DNB BANK ASA	IID000000002246697	NO0010161896
GULOGUZ DIS DEPOSU TICARET VE PAZARLAMA LTD		
KARSTEN FARMS		
KLP KAPITALFORVALTNING AS		
KOMMUNAL LANDSPENSJONSKASSE GJENSIDIG FORSIKRINGSSKAP	IID000000002228977	XS1217882171
UNILEVER PLC	IID000000002137159	GB00B10RZP78

Updated September 2021

2021 List of Companies Engaging in Scrutinized Business Operations in Sudan

Chapter 2270 of the Texas Government Code

The United States government determination regarding Sudan as a State Sponsor of Terrorism was rescinded, effective December 14, 2020. Further, the United States government revoked the major components of all economic sanctions against Sudan and the Government of Sudan, effective October 12, 2017.

However, these changes do not authorize transactions that are prohibited under the U.S. Darfur Sanctions Regulations or related executive orders. Accordingly, the Comptroller's office will continue monitoring for companies that meet the Texas statutory definition of a scrutinized company in relation to Sudan.

Updated November 2021

2021 List of Companies Engaging in Scrutinized Business Operations in Iran

Chapter 2270 of the Texas Government Code

COMPANY NAME	ISIN
AFRY AB F/K/A AF POYRY AB	SE0005999836
BEIQI FOTON MOTOR CO, LIMITED	CNE000000WC6
BHARAT PETROLEUM CORPORATION LIMITED	INE029A01011
CHINA RAILWAY GROUP LIMITED	CNE100000866
GLENCORE PLC	JE00B4T3BW64
HINDUSTAN PETROLEUM CORPORATION LIMITED	INE094A01015
HYUNDAI MOTOR COMPANY	KR7005380001
INDIAN OIL CORPORATION LIMITED	INE242A01010
JINDAL STEEL & POWER LIMITED	INE749A01030
LLOYDS BANKING GROUP PLC	GB0008706128
MAN SE	DE0005937007
MANGALORE REFINERY & PETROCHEMICALS LIMITED	INE103A01014
NORINCO INTERNATIONAL COOPERATION LIMITED	CNE000000VZ9
OIL & NATURAL GAS CORPORATION LIMITED	INE213A01029
RENAULT SA	FR0000131906
SINOPEC ENGINEERING (GROUP) CO, LTD	CNE100001NV2
TELECOM ITALIA SPA	IT0003497168
VODAFONE GROUP PLC	GB00BH4HKS39
ZHEJIANG SHIBAO CO., LTD.	CNE100001MJ9

Updated November 2021

List of Designated Foreign Terrorist Organizations Pursuant to Texas Government Code Chapter 2270

Organization	Organization
Abdallah Azzam Brigades (AAB)	ISIL-Khorasan (ISIL-K)
Abu Sayyaf Group (ASG)	ISIS-Bangladesh
Al-Aqsa Martyrs Brigade (AAMB)	ISIS-DRC
al-Ashtar Brigades (AAB)	ISIS-Greater Sahara
al-Mulathamun Battalion (AMB)	ISIS-Mozambique
al-Nusrah Front	ISIS-Philippines
al-Qa'ida (AQ)	ISIS-West Africa
al-Qa'ida in the Arabian Peninsula (AQAP)	Islamic Jihad Union (IJU)
Al-Qa'ida in the Indian Subcontinent	Islamic Movement of Uzbekistan (IMU)
al-Qaida in the Islamic Maghreb (AQIM)	Islamic Revolutionary Guard Corps (IRGC)
al-Shabaab	Islamic State of Iraq and the Levant (formerly al-Qa'ida in Iraq)
Ansar al-Dine (AAD)	Islamic State of Iraq and the Levant's Branch in Libya (ISIL-Libya)
Ansar al-Islam (AAI)	Jaish-e-Mohammed (JEM)
Ansar al-Shari'a in Benghazi	Jama'at Nusrat al-Islam wal-Muslimin (JNIM)
Ansar al-Shari'a in Darnah	Jaysh al-Adl (formerly Jundallah)
Ansar al-Shari'a in Tunisia	Jaysh Rijai al-Tariq al Naqshabandi (JRTN)
Ansaru	Jemaah Anshorut Tauhid (JAT)
Army of Islam (AOI)	Jemaah Islamiya (JI)
Asa'ib Ahi al-Haq (AAH)	Kahane Chai (Kach)
Asbat al-Ansar (AAA)	Kata'ib Hizballah (KH)
Aum Shinrikyo (AUM)	Kurdistan Workers Party (PKK, aka Kongra-Gel)
Basque Fatherland and Liberty (ETA)	Lashkar i Jhangvi (LJ)
Boko Haram	Lashkar-e Tayyiba (LeT)
Communist Party of the Philippines/New People's Army (CPP/NPA)	Liberation Tigers of Tamil Eelam (LTTE)
Continuity Irish Republican Army (CIRA)	Mujahidin Shura Council in the Environs of Jerusalem (MSC)
Gama'a al-Islamiyya (Islamic Group – IG)	National Liberation Army (ELN)
HAMAS	Palestine Islamic Jihad (PIJ)
Haqqani Network (HQN)	Palestine Liberation Front (PLF)
Harakat Sawad Misr (HASIM)	PFLP-General Command (PFLP-GC)
Harakat ul-Jihad-i-Islami (HUJI)	Popular Front for the Liberation of Palestine (PFLP)
Harakat ul-Jihad-i-Islami/Bangladesh (HUJI-B)	Real Irish Republican Army (RIRA)
Harakat ul-Mujahidin (HUM)	Revolutionary Armed Forces of Colombia (FARC)
Hizballah	Revolutionary People's Liberation Party/Front (DHKP/C)
Hizbul Mujahideen (HM)	Revolutionary Struggle (RS)
Indian Mujahideen (IM)	Shining Path (SL)
ISIL Sinai Province (formerly Ansar Bayt al-Maqdis)	Tehrik-e Taliban Pakistan (TTP)

Source: U.S. Department of State <https://state.gov/foreign-terrorist-organizations/>

Updated June 2021

**List of Companies Engaging in Scrutinized Business Operations
With a Designated Foreign Terrorist Organization
Pursuant to Texas Government Code Chapter 2270**

COMPANY NAME

No Companies Identified

Updated June 2021

A1002

Section 3 Policy

In accordance with 12 U.S.C. 1701u the County of Jefferson agrees to implement the following steps, which, to the greatest extent possible, will provide job training, employment and contracting opportunities for Section 3 residents and Section 3 businesses of the areas in which the program/project is being carried out.

- A. Introduce and pass a resolution adopting this plan as a policy to strive to attain goals for compliance to Section 3 regulations by increasing opportunities for employment and contracting for Section 3 residents and businesses.
- B. Assign duties related to implementation of this plan to the designated Civil Rights Officer.
- C. Notify Section 3 residents and business concerns of potential new employment and contracting opportunities as they are triggered by TxCDBG grant awards through the use of: Public Hearings and related advertisements; public notices; bidding advertisements and bid documents; notification to local business organizations such as the Chamber(s) of Commerce or the Urban League; local advertising media including public signage; project area committees and citizen advisory boards; local HUD offices; regional planning agencies; and all other appropriate referral sources. Include Section 3 clauses in all covered solicitations and contracts.
- D. Maintain a list of those businesses that have identified themselves as Section 3 businesses for utilization in TxCDBG funded procurements, notify those businesses of pending contractual opportunities, and make this list available for general Grant Recipient procurement needs.
- E. Maintain a list of those persons who have identified themselves as Section 3 residents and contact those persons when hiring/training opportunities are available through either the Grant Recipient or contractors.
- F. Require that all Prime contractors and subcontractors with contracts over \$100,000 commit to this plan as part of their contract work. Monitor the contractors' performance with respect to meeting Section 3 requirements and require that they submit reports as may be required by HUD or TDA to the Grant Recipient.
- G. Submit reports as required by HUD or TDA regarding contracting with Section 3 businesses and/or employment as they occur; and submit reports within 20 days of the federal fiscal year end (by October 20) which identify and quantify Section 3 businesses and employees.
- H. Maintain records, including copies of correspondence, memoranda, etc., which document all actions taken to comply with Section 3 regulations.

As officer and representative of Jefferson County, I the undersigned have read and fully agree to this plan, and become a party to the full implementation of this program.

Signature

JEFF R. BRANICK,
COUNTY JUDGE

Date: 02-13-2017

09/01/2016

Respondent: Return This Form With Response Submission.

A1001

Equal Opportunity Guidelines for Construction Contractors

1. **What are the responsibilities of the offeror or bidder to ensure equal employment opportunity?**
For contracts over \$ 10,000, the offeror or bidder must comply with the "Equal Opportunity Clause" and the "Standard Federal Equal Opportunity Construction Contract Specifications."
2. **Are construction contractors required to ensure a legal working environment for all employees?**
Yes, it is the construction contractor's responsibility to provide an environment free of harassment, intimidation, and coercion to all employees and to notify all foremen and supervisors to carry out this obligation, with specific attention to minority or female individuals.
3. **To alleviate developing separate facilities for men and women on all sites, can a construction contractor place all women employees on one site?**
No, two or more women should be assigned to each site when possible.
4. **Are construction contractors required to make special outreach efforts to Section 3 or minority and female recruitment sources?**
Yes, construction contractors must establish a current list of Section 3, minority and female recruitment sources. Notification of employment opportunities, including the availability of on-the-job training and apprenticeship programs, should be given to these sources. The efforts of the construction contractors should be kept in file.
5. **Should records be maintained on the number of Section 3 residents, minority and females applying for positions with construction contractors?**
Yes, records must be maintained to include a current list of names, addresses and telephone numbers of all Section 3, minority and female applicants. The documentation should also include the results of the applications submitted.
6. **What happens if a woman or minority is sent to the union by the Contractor and is not referred back to the Contractor for employment?**
If the unions impede the construction contractor's responsibility to provide equal employment opportunity, a written notice should be submitted to TDA.
7. **What efforts are made by construction contractors to create entry-level positions for Section 3 residents, women and minorities?**
Construction contractors are required to develop on-the-job training programs, or participate in training programs, especially those funded by the Department of Labor, to create positions for Section 3 residents, women and minorities and to meet employment needs.
8. **Are any efforts made by the Contractor to publicize their Equal Employment Opportunity (EEO) policy?**
Yes, the construction contractor is responsible for notifying unions and sources of training programs of their equal employment opportunity policy. Unions should be requested to cooperate in the effort of equal opportunity. The policy should be included in any appropriate manuals, or collective bargaining agreements. The construction contractor is encouraged to publicize the equal employment opportunity policy in the company newspaper and annual report. The Contractor is also responsible to include the EEO policy in all media advertisement.

Respondent: Return This Form With Response Submission.

JEFFERSON COUNTY SECTION 3 UTILIZATION PLAN & STATEMENT OF COMPLIANCE

CONTRACTOR INFORMATION					
Business Name	Freese and Nichols, Inc.	Prime	Sub	Certified Section 3 Business Concern	☐ Yes ☒ No
		☒	☐		
Business Address	10497 Town and Country Way, 500 Houston, TX 77024			Business Email	alan.hutson@freese.com
Project Title / Project #	RFQ 21-015/JW			Contract Amount	\$ TBD

PART I: SECTION 3 REQUIREMENTS

Section 3 is a provision of the Housing and Urban Development 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, be directed to low- and very low-income persons. Good faith efforts toward reaching Section 3 numeric goals are not optional, and the requirements of Section 3 apply to both Contractors and subcontractors.

Section 3 is triggered when HUD-funded construction and rehabilitation projects in excess of \$100,000 create the need for new employment, subcontracting, or training opportunities. **If a prime Contractor anticipates using subcontractors, each subcontractor with an anticipated contract value in excess of \$100,000 is also required to submit a separate Section 3 Utilization Plan & Statement of Compliance.** If contract will not exceed \$100,000 or does not result in new employment, subcontracting, or training opportunities, then Section 3 is not triggered, and this form is not required.

- **Section 3 Hiring**

Section 3 Hiring requirements are triggered by the need for new hires in the completion of a Section 3 covered contract. The Section 3 Hiring goals under 24 CFR 135.30(b)(2) require that Contractors and subcontractors commit to employ Section 3 Residents¹ as 30% of the aggregate number of full-time new hires.

- **Section 3 Subcontracting**

Section 3 Subcontracting requirements are triggered by the need for subcontracts in the completion of a Section 3 covered contract. The Section 3 Subcontracting goals under 24 CFR 135.30(c) require Contractors and subcontractors to make the effort to award contracts, to the greatest extent feasible, to Section 3 Business Concerns² as follows:

- Building Trades Contracts (construction): At least 10% of the total dollar amount of all Section 3 covered contracts for building trades work arising in connection with construction projects.
- Other Contracts (non-construction): At least 3% of the total dollar amount of all other Section 3 covered contracts. This might include professional service contracts such as architectural, engineering, or legal services related to construction or rehabilitation projects.

PART II: SECTION 3 TRIGGER

- ☒ I do not anticipate hiring any new permanent, temporary, or seasonal employees on this contract.
- ☐ I do not anticipate subcontracting any portion of the work on this contract.

IF CONTRACTOR DOES NOT ANTICIPATE THE NEED FOR ANY HIRING OR SUBCONTRACTING, BOTH BOXES MUST BE CHECKED ABOVE AND CONTRACTOR SHOULD SKIP TO PART VIII: STATEMENT OF COMPLIANCE ON THE FINAL PAGE

¹ A "Section 3 resident" is a public housing resident or individual who resides in Jefferson County and who is a low- or very low-income person (defined as families whose incomes do not exceed 80% of the median income for the area). Please refer to the HUD Income Limits for more information.

² A "Section 3 Business Concern" is a business: 1) That is 51 percent or more owned by Section 3 Resident; 2) Whose permanent, full-time employees include persons, at least 30 percent of whom are currently Section 3 residents; or 3) That provides evidence of a commitment to subcontract in excess of 25 percent of the dollar award of all subcontractors to be awarded to Section 3 Business Concerns.

***IF CONTRACTOR OR SUBCONTRACTOR DOES ANTICIPATE THE NEED TO CONDUCT ANY
HIRING OR SUBCONTRACTING, THE SECTIONS BELOW MUST BE
COMPLETED***

PART III: HIRING PLAN & COMMITMENT

Contractors and subcontractors awarded Section 3 covered contracts with an anticipated contract value in excess of \$100,000 and who will need to make additional hires to complete the contract must demonstrate compliance by committing to employ Section 3 residents as 30% of the aggregate number of new hires. Contractors and subcontractors are required to fill out this section in its entirety and must list all anticipated employment positions for this contract.

If awarded a contract, Contractor is required to provide an updated listing of its workforce for the project, which shall be subject to approval by Jefferson County. Any changes to that workforce during the contract will constitute new hires. Contractor is hereby informed that it must notify Jefferson County of any new hire opportunities that arise during the life of the contract. NOTE: If hiring is anticipated and this section is not completed, Contractor may be deemed non-compliant.

HIRING PLAN				
Column 1	Column 2	Column 3	Column 4	Column 5
Job Titles	Total # of Employees Needed for each Job Title	Total # of Employees Currently Employed at each Job Title	Total # of New Hires Needed for each Job Title	Total # of New Hires Expected to be Section 3 Residents
List <u>all</u> Job Titles that are needed to complete the entire scope of work under the contract.	List how many employees are needed for the contract under each Job Title.	List how many employees are <u>currently</u> employed under each Job Title who are anticipated to work on the contract.	List how many of these positions are currently <u>open</u> and will need to be filled under the contract.	List the number of Section 3 hires you will commit to for each position.
Example: Laborer	8	5	3	1

Use an additional sheet if required

Based on the table above, outline the total number of new hires needed and percentage of new hires that will be Section 3 Residents:

HIRING COMMITMENT	
Total Number of New Hires Needed (Total of Column 4)	
Percentage of New Hires that will be Section 3 (Total of Column 5 ÷ Total of Column 4 × 100 = % of New Hires)	

PART IV: SUBCONTRACTING PLAN & COMMITMENT

Contractors and subcontractors awarded Section 3 covered contracts with an anticipated contract value in excess of \$100,000 and who will need to subcontract any aspect of the contract must comply with Section 3 subcontracting requirements. Contractors and subcontractors must demonstrate compliance by providing at least 10% of construction-related and at least 3% of non-construction related contract opportunities to Section 3 Businesses. Contractors and subcontractors must complete the Subcontracting Plan below by listing all proposed subcontractors and amounts.

If the Contractor completing this form, or any of its subcontractors, qualifies as a Section 3 Business Concern, the associated **Section 3 Business Concern Self-Certification** form must be completed and attached to this Plan for each Contractor and/or subcontractor.

NOTE: If subcontracting is anticipated and this section is not completed, Contractor's submission may be deemed non-compliant.

SUBCONTRACTING PLAN				
Subcontractor Name	Work to be performed (Building trade or Other)	Section 3 Business?	Contract Amount	% of Total Contract
Tolunay-Wong Engineers	Geotech	☒ Yes ☐ No	TBD	5%
MBCO Engineering	Survey	☒ Yes ☐ No	TBD	5%
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		☐ Yes ☐ No		
		A. Yes ☐ No		
		1. Yes ☐ No		

Use an additional sheet if required

Based on the table above, outline the total dollar value and percentage of contracts that will be subcontracted to Section 3 Business Concerns.

SUBCONTRACTING COMMITMENT	
Total Amount to be Subcontracted to Section 3 Business Concerns	\$ TBD
Percentage of Total Value of Contract to be Subcontracted to Section 3 Business Concerns	10 %

PART V. CONTRACTOR RESPONSIBILITIES

Contractors, and subcontractors when applicable, must actively facilitate compliance with Section 3 by directing hiring, training, and subcontracting opportunities to Section 3 Residents and Section 3 Business Concerns to the greatest extent feasible. Following the "typical" procedures for hiring or subcontracting is not sufficient for compliance with Section 3.

☒ Efforts "To the Greatest Extent Feasible"

Contractors and subcontractors will have fulfilled their responsibility when they can provide evidence that extra or additional efforts were made, which may include, but are not limited to the following:

- Advertising the employment or subcontracting opportunities in a local community newspaper or a newspaper of general circulation.
- Publicizing the employment or subcontracting opportunities by posting flyers at local community centers, Housing Authorities, HUD-housing developments, or transitional housing.
- Contacting homeless service agencies or community organizations in HUD-assisted neighborhoods to request the assistance of these organizations in notifying Section 3 Residents of the training and employment opportunities.
- Contacting the local workforce development board, business assistance agencies, local chambers of commerce, community colleges, business development organizations, and other community development advocates and organizations to advertise employment and subcontracting opportunities.
- Posting hiring or subcontracting opportunities on job sites. Posters or signs must provide contact information for the Contractor and a brief description on how to apply or obtain additional information.
- Holding job informational meetings for residents and Contractors.
- Outreach to Section 3 Business Concerns, providing the firms with notice of subcontracting opportunities.
- Prior to engaging subcontractors for a project, making efforts to contract with Section 3 Business Concerns.

Contractors who have been found to have completed the hiring process or who have engaged subcontractors without adhering to the necessary Section 3 regulations, or without notifying Jefferson County, may be found in default of their contract and subject to penalties.

☒ Changes

If Contractors' or subcontractors' hiring or subcontracting needs change, or if the scope of work changes at any point during the contract, the Jefferson County compliance monitor must be notified. Any changes to the Section 3 Utilization Plan must be approved by Jefferson County via an amended Section 3 Utilization Plan, when applicable.

☒ Documentation & Reports

Contractors and subcontractors are responsible for documenting actions taken to comply with Section 3 requirements, including all results and impediments. Contractors and subcontractors that fail to meet the minimum numerical goals bear the burden of demonstrating why it was not feasible. Such justifications must describe the efforts that were taken, barriers encountered, and other relevant information. Contractors must maintain on file all records, and backup documentation, related to efforts to comply with Section 3 hiring and subcontracting requirements for seven (7) years after receiving final payment and after all other pending matters have been closed. Documentation and records may include, but are not limited to printed advertisements (newspapers, trade publications, and etc.), job postings, mailouts, notices, flyers, publications, etc., in connection with this contract. Contractor must, upon request, provide such records to Jefferson County, its staff, or its designees.

Contractors and subcontractors must submit reports on its Section 3 compliance status and its efforts regarding Section 3 implementation using the Jefferson County prescribed processes, reporting methods, and form(s). Reports may require information on Contractor's actual Section 3 hiring and subcontracting activity, listing of new hires, employee data, copies of executed contracts, and any relevant documentation. Contractor must provide reports in the frequency required by Jefferson County.

PART VI: OTHER ECONOMIC OPPORTUNITIES

In the event Contractor, or subcontractor when applicable, is unable to meet the hiring and/or subcontracting requirements, or can demonstrate that it has attempted, to the greatest extent feasible, to comply with the Section 3 requirements, Contractor may propose "Other Economic Opportunities". These opportunities may be exercised only with prior Jefferson County approval and satisfactory documentation explaining why hiring or subcontracting requirements could not be fulfilled.

Contractors proposing Other Economic Opportunities must submit a detailed written narrative to Jefferson County for review and approval. Examples of Other Economic Opportunities may include:

- Scholarships for Section 3 Residents
- Sponsoring the enrollment of Section 3 Residents into training or apprenticeship programs
- Providing training programs for Section 3 Residents
- Providing mentorship programs for Section 3 Residents
- Providing paid internships for Section 3 Residents
- Providing Section 3 Business Concerns with tools to enable them to successfully compete for contract opportunities, such as bonding and insurance assistance
- A combination of Other Economic Opportunities as approved by Jefferson County.

Other Economic Opportunities are subject to verification and approval by Jefferson County. Contractors interested in providing Other Economic Opportunities as a means to comply with Section 3 requirements are encouraged to review 24 CFR 135.40 for more detail.

PART VII: COMPLIANCE CURE PROCESS AND SANCTIONS

Noncompliance with Section 3 means failure by Contractors or subcontractors to comply with the requirements of Section 3 and Jefferson County's Section 3 Policy. Once the Section 3 requirement has been triggered, Contractors and subcontractors are required to comply with hiring and/or subcontracting efforts from award through contract conclusion. Contractors and subcontractors must comply with efforts identified in their Section 3 Utilization Plan & Statement of Compliance, which must be approved by Jefferson County, or must demonstrate why compliance is infeasible.

Jefferson County may, at its discretion, execute the following remedies for noncompliance:

- ☒ Based on the first observation or report of noncompliance with Section 3, the Contractor or subcontractor will be sent a written notice informing them of their specific deficiencies and the means by which these deficiencies may be corrected.
- ☒ The Contractor or subcontractor shall have up to 30 days, at the County's discretion, to remedy any deficiencies and achieve compliance, or provide written justification, in the format required by Jefferson County, on why it is unable to comply.
- ☒ Should the Contractor fail to achieve compliance or provide sufficient justification within the required timeframe, Jefferson County may elect to terminate the contract.
- ☒ Continuing failure or refusal by the Contractor or subcontractor to comply with the regulations of Section 3 may result in the application of sanctions, which may include termination of the contract for default, and debarment, suspension, or denial of future HUD-assisted contracts.
- ☒ Noncompliance may be reported to the HUD local field office.

Additional information on compliance with Section 3 may be found under 24 CFR 135 and in the Jefferson County Section 3 Policy.

PART VIII: STATEMENT OF COMPLIANCE

I understand the responsibilities under Section 3 of the Housing and Urban Development Act of 1968, 12 U.S.C. § 1701u and 24 CFR 135.1 – 24 CFR 135.92, and hereby agree to perform my duties in full compliance with these statutory provisions and in accordance with the contract. I agree to incorporate the full Section 3 Clause directly into all contracts and subcontracts and to pass through these requirements to my subcontractors and third-party Contractors who will perform work on or are relevant to this contract, as applicable. I understand that noncompliance with the Section 3 regulations and this Section 3 Utilization Plan & Statement of Compliance may result in Jefferson County and/or HUD implementing appropriate sanctions including termination of this contract for default, and debarment, suspension, or denial of future HUD-assisted contracts.

I verify that any vacant employment positions, including training positions, shall not be filled to circumvent my obligations under 24 CFR Part 135. I further verify that any subcontracting opportunities under this contract shall not be executed so as to circumvent my obligations under 24 CFR Part 135.

I understand that the information contained in this Section 3 Utilization Plan may require verification and I agree to provide additional documents verifying this information if requested.

I hereby certify under penalty of perjury that the foregoing is true and correct. I understand that providing false representation herein constitutes an act of fraud. False, misleading, or inaccurate information may result in disqualification or debarment as a Contractor for Jefferson County.

Freese and Nichols, Inc.

Business Name

Alan Hutson, PE

Name of Authorized Officer

Alan Hutson

Signature

July 21, 2021

Date

Chelsea Baker

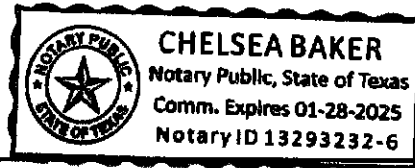
NAME OF NOTARY (PRINT OR TYPE)

STATE OF: Texas COUNTY OF: Harris ON THIS

21 DAY OF July 2021 BEFORE ME APPEARED Alan Hutson
TO ME PERSONALLY KNOWN WHO, BEING DULY SWORN, DID EXECUTE THE FOREGOING AFFIDAVIT, AND
DID STATE THAT HE OR SHE WAS PROPERLY AUTHORIZED BY THE PRIME CONTRACTOR TO EXECUTE THIS
AFFIDAVIT AND DID SO AS HIS OR HER FREE ACT AND DEED.

NOTARY PUBLIC: CPB {SEAL}

COMMISSION EXPIRES: 1/28/2025



INTERNAL JEFFERSON COUNTY APPROVAL: _____

Compliance Monitor Signature

Date

JEFFERSON COUNTY
SECTION 3 BUSINESS CONCERN SELF-CERTIFICATION FORM

Business Name: Freese and Nichols, Inc.		Business Principal Name: Alan Hutson, PE	
Address: 10497 Town and Country Way, #500		City: Houston	Zip Code: 77024
Email: alan.hutson@freese.com		Phone #: 713-600-6847	
Type of Business Entity: ☒ Corporation ☐ Partnership ☐ Sole Proprietorship ☐ Joint Venture			

Section 3 Business Criteria: A business is eligible for Section 3 Business status if it meets any one of the following criteria.

Check all that apply:

- ☐ My business is 51 percent or more owned by a Section 3 resident or residents;
- ☐ Thirty percent or more of my permanent, full-time employees are Section 3 residents; or within three years of the date of first employment with the business concern were Section 3 residents; or
- ☒ I can provide evidence of a commitment to subcontract in excess of 25 percent of the amount of all subcontracts to Section 3 businesses: (a) that are 51 percent or more owned by public housing residents or (b) that has 30 percent or more of their permanent, full-time employees as public housing residents.

Appropriate documentation must be attached as evidence of Section 3 eligibility (As defined by 24 CFR 135.5)

Business Concerns claiming status as a Section 3 Resident-owned enterprise must submit the following:

- ☐ Section 3 Resident Self-Certification Form verifying Section 3 Resident status of owner(s)
Additional evidence and supporting documentation may be required, including but not limited to proof of Public Housing Assistance (PHA) lease, evidence of participation in other public program(s), Housing Assistance Payment Contract (HAP) Award or benefit notification letter, proof of other public assistance, etc.)

Business Concerns claiming Section 3 status by claiming at least 30 percent of their workforce are Section 3 Residents must submit all of the following documents:

- ☐ List of all current full-time employees ☐ List of all current employees certified as Section 3 Residents
- ☐ Evidence of employee Section 3 resident status (including Section 3 Resident Self-Certification forms)
- ☐ Evidence of employee Section 3 Resident status less than 3 years from date of employment

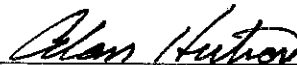
Business Concerns claiming Section 3 status by subcontracting 25 percent of the dollar awarded to qualified Section 3 Business Concern(s) must submit all of the following documents:

- ☐ List of subcontracted Section 3 Business Concern(s), contact information, and subcontract dollar amounts
- ☐ Evidence of subcontractors Section 3 Business Concern status (including Section 3 Business Self-Certification forms)

I understand that the information above may require verification and I agree to provide additional documents verifying this information if requested. I hereby certify under penalty of perjury that the foregoing is true and correct. I understand that providing false representation herein constitutes an act of fraud. False, misleading, or inaccurate information may result in disqualification or debarment as a Contractor for Jefferson County, which may be grounds for termination of contracts that resulted from this certification.

Alan Hutson, PE

Print Name



Signature

July 21, 2021

Date

For County Use Only

Contract / Project: _____ **Department:** _____ **Date:** _____

Pursuant to 24 CFR 135.36(e), a Section 3 business concern seeking a contract shall submit to Jefferson County, its Contractors and/or subcontractors (as applicable), if requested, sufficient evidence to demonstrate that the Business Concern is responsible and has the ability to perform successfully under the terms and conditions of the proposed contract. The ability to perform successfully under the terms and conditions of the proposed contract is required of all Contractors subject to the procurement standards of 2 CFR 200.318(h) **Warning:** HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

GLO COMPLIANCE PACKAGE

GLO CONTRACTOR PROPOSAL CERTIFICATION



GLO Contractor Proposal Certification	
Subrecipient: Jefferson County	Contract Number: RFQ 21-015/JW
Contractor Name: Freese and Nichols, Inc.	
Contractor Address: 10497 Town and Country Way, Ste 500 Houston, TX 77024	Phone: 713-600-6847

☒ I understand that I am responding to a contract opportunity which is funded with federal dollars and administered by the Texas General Land Office. I understand that debarment by either the State of Texas or the federal government will make me ineligible.

☒ I understand that all work must be completed in accordance with federal construction requirements, CDBG and CDBG-DR Program requirements, and state and local requirements, including but not limited to the following, as applicable:

- International Residential Code (IRC) – new construction and reconstruction;
- Housing Quality Standards (HQS) – for rehabilitated properties;
- All local building codes, standards, and specifications; and
- All standards and requirements defined by the Texas General Land Office (GLO), Jefferson County, the Jefferson County Engineering Department, and the Jefferson County Community Services Department (CSD).

☒ I hereby certify that all work performed will meet or exceed applicable codes, standards, and specifications as they apply to the work for which I am submitting a response. I also understand that compliance with applicable minimum codes, standards, and specifications will be considered part of my contract in the event that my offer is accepted by the above-referenced Subrecipient. I understand that all provisions also apply to my subcontractors and their officers, agents and employees, and I shall be liable for acts of non-compliance of subcontractors. I understand that failure to meet or exceed applicable codes, standards, and specifications may result in debarment from future federally funded contracts.

☒ I understand that I must provide a 1-2-10 warranty on all work performed, specifically:

- 1 year warranty on the entire home;
- 2 year warranty on mechanical, electrical and plumbing components; and
- 10 year warranty on structural components.

Failure to complete warranty work in a timely manner may result in debarment from future federally funded construction contracts.

☒ I understand that up to twenty percent (20%) of project construction funds may be retained for thirty (30) days pending completion of the Final Inspection and Verification. Failure to complete punch list items or warranty work during this time will result in forfeiture of the 20% retainage.

Alan Houston
Signature of Contractor

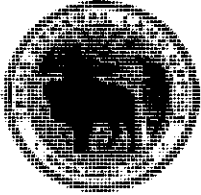
July 21, 2021
Date

Respondent: Return This Form With Response Submission.

GLO COMPLIANCE PACKAGE
GLO CERTIFICATION OF OFFEROR REGARDING CIVIL RIGHTS LAWS AND
REGULATIONS

U.S. Department of Housing and Urban Development	
INSTRUCTIONS	
CERTIFICATION OF OFFEROR REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.	
NAME AND ADDRESS OF OFFEROR (include ZIP Code) Freese and Nichols, Inc. 10497 Town and Country Way, Suite 500, Houston, TX 77024	
CERTIFICATION BY OFFEROR	
Offeror has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations. ☒ Yes ☐ No	
The undersigned hereby certifies that: ☒ The <u>Section 3 Clause</u> is included in the Solicitation. A written Section 3 plan was prepared and submitted as part of the RFQ proceedings (if contract equals or exceeds \$100,000). ☒ The <u>Non-Segregated Facilities</u> clause is included in the Solicitation. No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964. ☒ The <u>Equal Employment Opportunity</u> clause is included in the Solicitation (if contract equals or exceeds \$10,000). ☒ The <u>Equal Employment Opportunity for Workers With Disabilities</u> clause is included in the Solicitation.	
Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended? Yes ☒ No	
NAME AND TITLE OF SIGNER (Please type) Alan Hutson, PE Vice President/Principal	
SIGNATURE 	DATE July 21, 2021

Respondent: Return This Form With Response Submission.



THE OFFEROR REPRESENTS AND CERTIFIES AS PART OF ITS BID/OFFER THAT IT:

☐ Is a Section 3 Business Concern. A Section 3 Business Concern means a business concern:

- That is 51% or more owned by Section 3 Resident(s); or
- Whose permanent, full-time employees include persons, at least 30% of whom are currently Section 3 Residents, or
- That provides evidence of a commitment to subcontract in excess of 25% of the dollar value of all subcontracts to be awarded to Section 3 Business Concerns, that meet the qualifications set forth in paragraphs 1 or 2 herein.

☒ Is NOT a Section 3 Business Concern, but who has and will continue to seek compliance with Section 3 by certifying the following efforts to be undertaken.

EFFORTS TO AWARD SUBCONTRACTOR TO SECTION 3 CONCERNS (Check ALL that apply)

By contacting business assistance agencies, minority Contractors' associations and community organizations to inform them of the contracting opportunities and requesting their assistance in identifying Section 3 businesses which may solicit bids for a portion of the work. Contractors and Subcontractors must post all new hire opportunities with the local Workforce Solutions Center and WorkinTexas.com.

☒ By advertising contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information, in the common areas of the applicable development(s) owned and managed by a Housing Authority.

☒ By providing written notice to all known Section 3 Business Concerns of contracting opportunities. This notice should be in sufficient time to allow the Section 3 Business Concerns to respond to bid invitations

☒ By following up with Section 3 Business Concerns that have expressed interest in the contracting opportunities.

☒ By coordinating meetings at which Section 3 Business Concerns could be informed of specific elements of the work for which subcontract bids are being sought.

☒ By conducting workshops on contracting procedures and specific contracting opportunities in a timely manner so that Section 3 Business Concerns can take advantage of contracting opportunities.

☒ By advising Section 3 Business Concerns as to where to seek assistance to overcome barriers such as inability to obtain bonding, lines of credit, financing, or insurance and aiding Section 3 Business in qualifying for such bonding, financing, insurance, etc.

☒ Where appropriate, breaking out contract work into economically feasible units to facilitate participation by Section 3 businesses.

☒ By developing and using a list of eligible Section 3 Business Concerns.

☒ By actively supporting and undertaking joint ventures with Section 3 Businesses.

EFFORTS TO PROVIDE TRAINING AND EMPLOYMENT TO SECTION 3 RESIDENTS

☒ By entering into a "first source" hiring agreements with organizations representing Section 3 Residents.

☒ By establishing training programs, which are consistent with the requirements of the Department of Labor, specifically for Section 3 Residents in the building trades.

☒ By advertising employment and training positions to dwelling units occupied by Category 1 and 2 residents.

☒ By contacting resident councils and other resident organizations in the affected housing development request assistance in notifying residents of the training and employment positions to be filled.

☒ By arraigining interviews and conducting interviews on the job site.

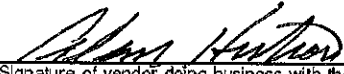
☒ By undertaking such continued job-training efforts as may be necessary to ensure the continued employment of Section 3 Residents previously hired for employment opportunities.

1. By posting job vacancies in Work-In-Texas or with my local Workforce Solutions Center.

Contractor Name/Business Name: Freese and Nichols, Inc Date: July 21, 2021

Authorized Representative Name: Alan Hutson, PE Signature: Alan Hutson

Respondent: Return This Form With Response Submission.

CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity		FORM CIQ
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor 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 vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.	OFFICE USE ONLY 	
1 Name of vendor who has a business relationship with local governmental entity. Freese and Nichols, Inc.		
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 on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)		
3 Name of local government officer about whom the information is being disclosed. N/A _____ Name of Officer		
4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary. A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor? ☐ Yes ☒ No B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity? ☐ Yes ☒ No		
5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.		
6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).		
7  Signature of vendor doing business with the governmental entity July 21, 2021 Date		

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

Certification Regarding Lobbying

(To be submitted with each bid or offer exceeding \$100,000)

The undersigned certifies, to the best of his or her knowledge and belief, that:

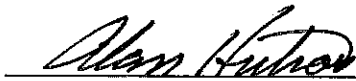
(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection 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.

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(c) The undersigned shall require that the language paragraph 1 and 2 of this anti-lobbying 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 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995).

The Contractor, Freese and Nichols, Inc., certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.



Signature of Contractor's Authorized Official

Alan Hutson, PE | Vice President/Principal | 713-600-6847

Printed Name and Title of Contractor's Authorized Official

July 21, 2021

Date

Respondent: Return This Form With Response Submission.

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub-awardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity 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 a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the sub-awardee, e.g., the first sub-awardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Sub-awardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Qualifications (RFQ) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFQ-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503

Approved by OMB
0348-0046

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure)

Type of Federal Action: <u>N/A</u> a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	Status of Federal Action: <u>N/A</u> a. bid/offer/application b. initial award c. post-award	Report Type: <u>N/A</u> a. initial filing b. material change
Name and Address of Reporting Entity: ___ Prime ___ Sub-awardee Tier ___, if Known: N/A Congressional District, if known:	If Reporting Entity in No. 4 is Sub-awardee, Enter Name and Address of Prime: N/A Congressional District, if known:	
Federal Department/Agency: N/A	7. Federal Program Name/Description: CFDA Number, if applicable: <u>N/A</u>	
Federal Action Number, if known: N/A	9. Award Amount, if known: \$ <u>N/A</u>	
10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i> N/A	b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i> N/A	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: <u>Alan Hutson</u> Print Name: <u>Alan Hutson, PE, ENV SP</u> Title: <u>Vice President/Principal</u> Telephone No.: <u>713-600-6847</u> Date: <u>July 21, 2021</u>	
Federal Use Only	Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)	

Respondent: Return This Form With Response Submission.

Local Government Officer Conflicts Disclosure Statement - OFFICE USE ONLY

LOCAL GOVERNMENT OFFICER CONFLICTS DISCLOSURE STATEMENT		FORM CIS
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This is the notice to the appropriate local governmental entity that the following local government officer has become aware of facts that require the officer to file this statement in accordance with Chapter 176, Local Government Code.		OFFICE USE ONLY Date Received
1	Name of Local Government Officer 	
2	Office Held 	
3	Name of vendor described by Sections 176.001(7) and 176.003(a), Local Government Code 	
4	Description of the nature and extent of employment or other business relationship with vendor named in item 3 	
5	List gifts accepted by the local government officer and any family member, if aggregate value of the gifts accepted from vendor named in item 3 exceeds \$100 during the 12-month period described by Section 176.003(a)(2)(B). Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ Date Gift Accepted _____ Description of Gift _____ (attach additional forms as necessary)	
6	AFFIDAVIT I swear under penalty of perjury that the above statement is true and correct. I acknowledge that the disclosure applies to each family member (as defined by Section 176.001(2), Local Government Code) of this local government officer. I also acknowledge that this statement covers the 12-month period described by Section 176.003(a)(2)(B), Local Government Code. _____ Signature of Local Government Officer AFFIX NOTARY STAMP / SEAL ABOVE Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20_____, to certify which, witness my hand and seal of office. _____ Signature of officer administering oath _____ Printed name of officer administering oath _____ Title of officer administering oath	

Adopted 8/7/2015

Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) **Minimum Wages.** All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 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.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(2) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract in the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract. HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the rates and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(b) 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:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

Previous editions are obsolete

Page 2 of 5

Form HUD-1010 (06/2009)
rel. Handbook 1344.1

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(iii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

Previous editions are obsolete.

Page 3 of 5

form HUD-1810 (06/2009)
ref. Handbook 1344.1

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

5. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, 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 the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.3 may be grounds for termination of the contract and for debarment of a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 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 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, 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 subparagraph (1) of this paragraph, 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 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

Previous editions are obsolete

Page 4 of 5

form HUD-4810 (05/2008)
rel. Handbook 1344.1

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee 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 contract, 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 subparagraph (2) of this paragraph.

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

C. Health and Safety. The provisions of this paragraph C are applicable when the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 63 Stat 98), 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

TITLE 29--Labor

Subtitle A--OFFICE OF THE SECRETARY OF LABOR

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

SEC.

- 3.1 Purpose and Scope
- 3.2 Definitions
- 3.3 Weekly Statement with respect to payment of wages
- 3.4 Submission of weekly statement and the preservation and inspection of weekly payroll records
- 3.5 Payroll deductions permissible without application to or approval of the Secretary of Labor.
- 3.6 Payroll deductions permissible with the approval of the Secretary of Labor.
- 3.7 Applications for the approval of the Secretary of Labor
- 3.8 Action by the Secretary of Labor upon applications.
- 3.9 Prohibited payroll deductions
- 3.10 Method of payment of wages
- 3.11 Regulations part of contract

AUTHORITY: The provisions of this Part 3 issued under R.S. 161, sec.2, 48 STAT. 548; Reorg. Plan No. 14 of 1950, 64 Stat. 1267, 5 U.S.C. Appendix; 5 U.S.C. 301; 40 U.S.C. 276c.

SOURCE: The provisions of this Part 3 appear at 29 F.R. 97, Jan. 4, 1964, unless otherwise noted.

§ 3.1 Purpose and scope.

This part prescribes "anti-kickback" regulations under section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c), popularly known as the Copeland Act. This part applies to any contract which is subject to Federal wage standards and which is for the construction, prosecution, completion, or repair of public buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States. The part is intended to aid in the enforcement of the minimum wage provisions of the

Davis-Bacon Act and the various statutes dealing with federally assisted construction that contain similar minimum wage provisions, including those provisions which are not subject to Reorganization Plan No. 14 (e.g., the College Housing Act of 1950, the Federal Water Pollution Control Act, and the Housing Act of 1950), and in the enforcement of the overtime provisions of the Contract Work Hours Standards Act whenever they are applicable to construction work. The part details the obligation of contractors and subcontractors relative to the weekly submission of statements regarding the wages paid on work covered thereby; sets forth the circumstances and procedures governing the making of payroll deductions from the wages of those employed on such work; and delineates the methods of payment permissible on such work.

§ 3.2 Definitions.

As used in the regulations in this part:

(a) The terms *building* or *work* generally include construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work. The terms include, without limitation, buildings, structures, and improvements of all types, such as bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mines, powerlines, pumping stations, railways, airports, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, and canals; dredging, shoring, scaffolding, drilling, blasting, excavating, clearing, and landscaping. Unless conducted in connection with and at the site of such a building or work as is described in the foregoing sentence, the manufacture or furnishing of materials, articles, supplies, or equipment (whether or not a Federal or State agency acquires title to such materials, articles, supplies, or equipment during the course of the manufacture or furnishing, or owns the materials from which they are manufactured or furnished) is not a building or work within the meaning of the regulations in this part.

(b) The terms *construction*, *prosecution*, *completion*, or *repair* mean all types of work done on a particular building or work at the site thereof, including, without limitation, altering, remodeling, painting and decorating, the transporting of materials and supplies to or from the building or work by the employees of the construction contractor or construction subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work, by persons employed at the site by the contractor or subcontractor.

(c) The terms *public building* or *public work* include building or work for whose construction, prosecution, completion, or repair, as defined above, a Federal

agency is a contracting party, regardless of whether the thereof is in a Federal agency.

(d) The term *building or work financed in whole or in part by loans or grants from the United States* includes building or work for whose construction, prosecution, completion, or repair, as defined above, payment or part payment is made directly or indirectly from funds provided by loans or grants by a Federal agency. This term includes building or work for which the Federal assistance granted is in the form of loan guarantees or insurance.

(e) Every person paid by a contractor or subcontractor in any manner for his labor in the construction, prosecution, completion, or repair of a public building or public work or building or work financed in whole or in part by loans or grants from the United States is employed and receiving wages, regardless of any contractual relationship alleged to exist between him and the real employer.

(f) The term *any affiliated person* includes a spouse, child, parent, or other close relative of the contractor or subcontractor; a partner or officer of the contractor or subcontractor; a corporation closely connected with the contractor or subcontractor as parent, subsidiary, or otherwise, and an officer or agent of such corporation.

(g) The term *Federal agency* means the United States, the District of Columbia, and all executive departments, independent establishments, administrative agencies, and instrumentalities of the United States and of the District of Columbia, including corporations, all or substantially all of the stock of which is beneficially owned by the United States, by the District of Columbia, or any of the foregoing departments, establishments, agencies, and instrumentalities.

[29 FR 97, Jan. 4, 1964, as amended at 38 FR 32575, Nov. 27, 1972]

§ 3.3 Weekly statement with respect to payment of wages.

(a) As used in this section, the term *employee* shall not apply to persons in classifications higher than that of laborer or mechanic and those who are the immediate supervisors of such employees.

(b) Each contractor or subcontractor engaged in the construction, prosecution, completion, or repair of any public building or public work, or building or work financed in whole or in part by loans or grants from the United States, shall furnish each week a statement with respect to the wages paid each of its employees engaged on work covered by this part 3

and part 5 of this title during the preceding weekly payroll period. This statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and shall be on the back of Form WH 347, "Payroll (For Contractors Optional Use)" or on any form with identical wording. Copies of Form WH 347 may be obtained from the Government contracting or sponsoring agency or from the Wage and Hour Division Web site at <http://www.dcl.gov/esa/whd/forms/wh347instr.htm> or its successor site.

(c) The requirements of this section shall not apply to any contract of \$2,000 or less.

(d) Upon a written finding by the head of a Federal agency, the Secretary of Labor may provide reasonable limitations, variations, tolerances, and exemptions from the requirements of this section subject to such conditions as the Secretary of Labor may specify.

[29 FR 97, Jan. 4, 1964, as amended at 38 FR 10159, July 17, 1966; 47 FR 23679, May 29, 1982; 73 FR 77511, Dec. 19, 2008] **§ 3.4 Submission of weekly statements and the preservation and inspection of weekly payroll records.**

(a) Each weekly statement required under § 3.3 shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to a representative of a Federal or State agency in charge at the site of the building or work, or, if there is no representative of a Federal or State agency at the site of the building or work, the statement shall be mailed by the contractor or subcontractor, within such time, to a Federal or State agency contracting for or financing the building or work. After such examination and check as may be made, such statement, or a copy thereof, shall be kept available, or shall be transmitted together with a report of any violation, in accordance with applicable procedures prescribed by the United States Department of Labor.

(b) Each contractor or subcontractor shall preserve his weekly payroll records for a period of three years from date of completion of the contract. The payroll records shall set out accurately and completely the name and address of each laborer and mechanic, his correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Such payroll records shall be made available at all times for inspection by the contracting officer or his authorized representative, and by authorized representatives of the Department of Labor.

(Reporting and recordkeeping requirements in paragraph (b) have been approved by the Office of Management and Budget under control number 1215-0217)

[39 FR 97, Jan. 4, 1964, as amended at 47 FR 145, Jan. 5, 1982]

§ 3.5 Payroll deductions permissible without application to or approval of the Secretary of Labor.

Deductions made under the circumstances or in the situations described in the paragraphs of this section may be made without application to and approval of the Secretary of Labor.

(a) Any deduction made in compliance with the requirements of Federal, State, or local law, such as Federal or State withholding income taxes and Federal social security taxes.

(b) Any deduction of sums previously paid to the employee as a bona fide prepayment of wages when such prepayment is made without discount or interest. A bona fide prepayment of wages is considered to have been made only when cash or its equivalent has been advanced to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.

(c) Any deduction of amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor, or any affiliated person, or when collusion or collaboration exists.

(d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representative of employees, or both, for the purpose of providing either from principal or income, or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the foregoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents. *Provided, however, That the following standards are met:*

(1) The deduction is not otherwise prohibited by law;

(2) It is either:

(i) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for

the obtaining of or for the continuation of employment, or

(ii) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees;

(3) No profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and

(4) The deductions shall serve the convenience and interest of the employee.

(e) Any deduction contributing toward the purchase of United States Defense Stamps and Bonds when voluntarily authorized by the employee.

(f) Any deduction requested by the employee to enable him to repay loans to or to purchase shares in credit unions organized and operated in accordance with Federal and State credit union statutes.

(g) Any deduction voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.

(h) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.

(i) Any deductions to pay regular union initiation fees and membership dues, not including fines or special assessments. *Provided, however, That a collective bargaining agreement between the contractor or subcontractor and representatives of its employees provides for such deductions and the deductions are not otherwise prohibited by law.*

(j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3(m) of the Fair Labor Standards Act of 1938, as amended, and part 531 of this title. When such a deduction is made the additional records required under §516.23(a) of this title shall be kept.

(k) Any deduction for the cost of safety equipment of nominal value purchased by the employee as his own property for his personal protection in his work, such as safety shoes, safety glasses, safety gloves, and hard hats, if such equipment is not required by law to be furnished by the employer, if such deduction is not violative of the Fair Labor Standards Act or prohibited by other law, if the cost on which the deduction is based does not exceed the actual cost to the

employer where the equipment is purchased from him and does not include any direct or indirect monetary return to the employer where the equipment is purchased from a third person, and if the deduction is either

(1) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance; or

(2) Provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees.

[29 FR 97, Jan. 4, 1964, as amended at 33 FR 9770, May 28, 1971]

§ 3.6 Payroll deductions permissible with the approval of the Secretary of Labor.

Any contractor or subcontractor may apply to the Secretary of Labor for permission to make any deduction not permitted under § 3.5. The Secretary may grant permission whenever he finds that:

(a) The contractor, subcontractor, or any affiliated person does not make a profit or benefit directly or indirectly from the deduction either in the form of a commission, dividend, or otherwise;

(b) The deduction is not otherwise prohibited by law,

(c) The deduction is either (1) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance, or (2) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; and

(d) The deduction serves the convenience and interest of the employee.

§ 3.7 Applications for the approval of the Secretary of Labor.

Any application for the making of payroll deductions under § 3.6 shall comply with the requirements prescribed in the following paragraphs of this section:

(a) The application shall be in writing and shall be addressed to the Secretary of Labor.

(b) The application need not identify the contract or contracts under which the work in question is to be performed. Permission will be given for deductions on all current and future contracts of the applicant for a period of 1 year. A renewal of permission to make such payroll deduction will be granted upon the submission of an application which makes reference to the original application, recites the date of the Secretary of Labor's approval of such deductions, states affirmatively that there is continued compliance with the standards set forth in the provisions of § 3.6, and specifies any conditions which have changed in regard to the payroll deductions.

(c) The application shall state affirmatively that there is compliance with the standards set forth in the provisions of § 3.6. The affirmation shall be accompanied by a full statement of the facts indicating such compliance.

(d) The application shall include a description of the proposed deduction, the purpose to be served thereby, and the classes of laborers or mechanics from whose wages the proposed deduction would be made.

(e) The application shall state the name and business of any third person to whom any funds obtained from the proposed deductions are to be transmitted and the affiliation of such person, if any, with the applicant.

[29 FR 97, Jan. 4, 1964, as amended at 33 FR 9771, May 28, 1971]

§ 3.8 Action by the Secretary of Labor upon applications.

The Secretary of Labor shall decide whether or not the requested deduction is permissible under provisions of § 3.6; and shall notify the applicant in writing of his decision.

§ 3.9 Prohibited payroll deductions.

Deductions not elsewhere provided for by this part and which are not found to be permissible under § 3.6 are prohibited.

§ 3.10 Methods of payment of wages.

The payment of wages shall be by cash, negotiable instruments payable on demand, or the additional forms of compensation for which deductions are permissible under this part. No other methods of payment shall be recognized on work subject to the Copeland Act.

§ 3.11 Regulations part of contract.

All contracts made with respect to the construction, prosecution, completion, or repair of any public building or public work or building or work financed in whole or in part by loans or grants from the United States covered by the regulations in this part shall expressly bind the contractor or subcontractor to comply with such of the regulations in this part as may be applicable. In this regard, see §5.5(a) of this subtitle.

CONTRACTOR CERTIFICATIONS

U.S. Department of Housing and Urban Development

CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS**INSTRUCTIONS**

CERTIFICATION OF BIDDER REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.

NAME AND ADDRESS OF BIDDER (include ZIP Code)

Freese and Nichols, Inc.

10497 Town and Country Way, Suite 500, Houston, TX 77024

CERTIFICATION BY BIDDER

Bidder has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations.

☒ Yes ☐ No

The undersigned hereby certifies that:

☒ The Provision of Local Training, Employment, and Business Opportunities clause (Section 3 provision) is included in the Contract. A written Section 3 plan (Local Opportunity Plan) was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$100,000).

☒ The Equal Opportunity clause is included in the Contract (if bid equals or exceeds \$10,000).

Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

☐ Yes ☒ No

NAME AND TITLE OF SIGNER (Please type) Alan Hutson, PE | Vice President/Principal



July 21, 2021

SIGNATURE

DATE

Respondent: Return This Form With Response Submission.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
CONTRACTOR'S CERTIFICATION

CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

TO (appropriate recipient)	DATE <u>July 21, 2021</u>
	PROJECT NUMBER (if any) <u>RFQ 21-015/JW</u>
C/O	PROJECT NAME <u>PE Svcs. for Drainage</u>

1. The undersigned, having executed a contract with Freese and Nichols, Inc. Improvements Crane Bayou PS Bldg. and Generators (CDBG – Disaster Recovery) for the construction of the above-identified project, acknowledges that:

- (a) The Labor Standards provisions are included in the aforesaid contract,
- (b) Correction of any infractions of the aforesaid conditions, including infractions by any subcontractors and any lower tier subcontractors, is Contractor's responsibility.

2. Certifies that:

- (a) Neither Contractor nor any firm, partnership or association in which it has substantial interest is designated as an ineligible Contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act, as amended.
- (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. Contractor agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. Certifies that:

- (a) The legal name and the business address of the undersigned are:
Freese and Nichols, Inc.

801 Cherry St.; Suite 2800

Fort Worth, Texas 76102

- (b) The undersigned is (choose one):

(1) A SINGLE PROPRIETORSHIP

(3) A CORPORATION ORGANIZED IN THE STATE OF

Texas

(2) A PARTNERSHIP

(4) OTHER ORGANIZATION (Describe)

- (c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
Please see the attached list of owners, partners or officers.		

- (d) The names and addresses of all other persons having a substantial interest in the undersigned, and the nature of the interest are:

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction Contractors in which the undersigned has a substantial interest are:

NAME	ADDRESS	TRADE CLASSIFICATION

Freese and Nichols, Inc.
(Contractor)

Date July 21, 2021

By



Respondent: Return This Form With Response Submission.

2021 FNI Principals

Principals: 76 Principals

Name	Title	Address
Charles Archer	Vice President	1017 Main Campus Drive, Suite. 1200, Raleigh, NC 27606
David Bennett, PE, ENV SP, PACP	Vice President	9601 McAllister Freeway, Suite. 1008, San Antonio, TX 78216
Gennady Boksiner, PE, BCEE, ENV SP	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Chris Bosco, PE, PTOE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Dwain Brown, PE, CCM	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Jessica Brown, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Robert Chambers, PG, CAPM	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Cody Cockroft, PE	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
Scott Cole, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Brian Coltharp, PE	President and CEO	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Shad Comeaux, AICP	Vice President	11200 Broadway Street, Suite. 2330, Pearland, TX 77584
John Dewar, PE, SE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Larry Eckersley, PE, CDT, CCM, CCCA	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Erin Flanagan, PE, BCEE	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Lee Freese, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Russell Gibson, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Thomas Gooch, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Paul Green, PE	Vice President	6303 N Portland Avenue, Suite. 100, OK City, OK 73112
Alan Greer, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Ron Guzman, PE	Vice President	800 N. Shoreline Blvd., Suite. 1600N, Corpus Christi, TX 78401
Edmund Haas, AICP	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Drew Hardin, PE	Vice President	1251 Sadler Drive Bldg. 1, Suite. 1150, San Marcos, TX 78666
Thomas HaSuiter, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Tricia Hatley, PE	Vice President	6303 N Portland Avenue, Suite. 100, OK City, OK 73112
Jeff Hensley, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Robert Herchert	Chairman	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Scott Hubley, PE, CFM	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Alan Hutson, PE	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
David Jackson, PE, BCEE	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Bryan Jann, PE	Vice President	1017 Main Campus Drive, Suite. 1200, Raleigh, NC 27606

2021 FNI Principals

Principals: 76 Principals

Name	Title	Address
Chris Jones, PE, CCM, CDT	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Kevin Johnson, PE	Vice President and Secretary	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Mazen Kawasmi, PE, CFM, GISP, PACP, IAM	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Jim Keith, PE, CFM	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Kendall King, PE	Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759
Charles Kucherka, PE, CCM	Vice President	1251 Sadler Drive Bldg. 1, Suite. 1150, San Marcos, TX 78666
Ron Lemons, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Nick LeSuiter, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Raymond Longoria, PE, BCEE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Scott Maughn, PE	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
William McDonald	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Krista Melnar, PE, CFM, PMP	Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759
Marc Miller, PE	Vice President	360 Interstate North Pkwy., Suite. 250, Atlanta, GA 30339
Cindy Milrany, CPA	Senior Vice President and Treasurer	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Sam Meisner, PE	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Mathew Moses, PE	Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759
Vimal Nair, PE, LEED® AP BD+C	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
John New, PE, CCCA	Vice President	9601 McAlliSuiter Freeway, Suite. 1008, San Antonio, TX 78216
Michael Nichols, PE	Senior Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759
Hector Olmos, PE, CFM	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
Murphy Parks, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Adam Payne, PE, CCM, CDT, LEED® AP, ENV SP	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Jeff Payne, PE	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Robert Pence, PE, BCEE	Chairman of the Board	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Gwen Perez	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Michael Reedy, PE	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
John Rutledge, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Wendy Shabay, AICP, Assoc. AIA	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204
Matt Shafer	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Trey Shanks, CFM, IAM	Vice President	2711 North Haskell Avenue, Suite. 3300, Dallas, TX 75204

2021 FNI Principals

Principals: 76 Principals

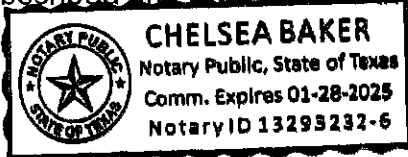
Name	Title	Address
Carleton Sherrer, PE	Vice President	360 Interstate North Pkwy., Suite. 250, Atlanta, GA 30339
Juan Sierra, PE	Vice President	9601 McAlliSuiter Freeway, Suite. 1008, San Antonio, TX 78216
Chad Simmons, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Trooper Smith, PE	Vice President	360 Interstate North Pkwy., Suite. 250, Atlanta, GA 30339
Gary Soward	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Cory Stull, PE, CFM, GISP	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
Jeff Taylor	Vice President	11200 Broadway Street, Suite. 2330, Pearland, TX 77584
Victor Vasquez, PE	Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759
Coy Veach, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Alfred Vidaurri, Jr., AIA, NCARB, AICP, LEED BD+C	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Brad Watson, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Mike Wayts, PE, CFM	Vice President	1017 Main Campus Drive, Suite. 1200, Raleigh, NC 27606
Richard Weatherly, PE	Vice President	11200 Broadway Street, Suite. 2330, Pearland, TX 77584
Gordon Wells, PE	Vice President	801 Cherry Street, Suite. 2800, Ft. Worth, TX 76102
Chuck Wolf, D.Eng, PE, BCEE	Vice President	10497 Town and Country Way, Suite. 500, Houston, TX 77024
John Wolfhlope, PE	Vice President	10431 Morado Cir., Suite. 300, Austin, TX 78759

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of Texas)

County of Harris)Alan Hutson, PE, being first duly sworn, deposes and says that:

- (1) He/She is VP/Principal of Freese and Nichols, Inc., the Bidder that has submitted the attached Bid;
- (2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Jefferson County (Local Public Agency) or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) Alan HutsonVice President/PrincipalTitleSubscribed and sworn to me this 21st day of July, 2021.By: CPB
Notary PublicMy commission expires 1/28/2025**Respondent: Return This Form With Response Submission.**

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

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

Locality/Grantee: Jefferson County, TX Contract #: RFQ 21-015/JW
 Project Name: PE Svcs. for Drainage Improvements Crane Bayou PS Bldg. and Generators
(CDBG – Disaster Recovery)
 Firm Freese and Nichols, Inc. Date: July 21, 2021

I do hereby certify that I am a contractor on the above-mentioned project and that I have appointed Alan Hutson, PE whose signature appears below, to supervise the payment of my employees. I further certify that he/she is in the position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland "Anti-Kickback" Act which he/she is to execute with my full authority and approval until such time as I submit to the grantee locality a new certificate appointing some other person for the purposes herein above stated.

Name: Gwen Perez Insert name, address, phone number & email address of person appointed as payroll officer
 Address: 801 Cherry Street; Ste 2800
 City: Fort Worth State: TX Zip Code: 76102
 Telephone No: 817-735-7233 Email Address: gwen.perez@freese.com

Alan Hutson ←
 Identifying Signature of Appointee

Gwen Perez ←
 Signature of Appointing Officer

Title: Vice President ←

Respondent: Return This Form With Response Submission.

Complaint RegisterUnder Section 3 of the Housing
And Urban Development Act of 1968**U.S. Department of Housing
and Urban Development**
Office of Fair Housing
and Equal OpportunityOHD Approval No. 2520-0043 (revised)
(Expires 11/30/2018)

Instructions: This form is to be used to report allegations of noncompliance with Section 3 of the Housing and Urban Development Act of 1968, as amended and implementing regulations at 24 CFR Part 135.

1. Complainant Information:	
Name of Complainant (Person or organization)	Home Phone
Street Address	Work Phone
City, State, Zip code	
Email Address:	
2. You are: (check all that apply)	
☐ Low/Very Low Income Person	☐ Section 3 Business
☐ Public Housing Resident	☐ A Representative of a Section 3 Business
☐ HUD Youthbuild Participant	☐ Other: _____
☐ A Representative of any of the above listed individuals (Such as: a Low-Income Person or Public Housing Resident)	
3. Basis for alleged noncompliance with Section 3:	
☐ Denied Training ☐ Denied Employment ☐ Denied Contracting ☐ Other (see below in item 6)	
4. Complaint is against: (check one or more boxes)	
☐ Recipient of HUD Funds (Such as: a PHA, city/county agency, etc.) ☐ Contractor ☐ Subcontractor ☐ Other (please specify): _____	
5. Who is this complaint being filed against?	
Name of agency, organization, or company:	Business Phone
Street Address	
City, State, Zip code	
Name and identify others (if any) who allegedly violated Section 3 in this case:	

Previous Editions are Obsolete

Page 1 of 8

form HUD-858 (5/2016)

a. How did the HUD recipient, contractor, or subcontractor violate the requirements of Section 3? (Check all that apply – provide documentation, if available)	
HUD Recipient	Contractor and/or Subcontractor
☐ Failed to notify Section 3 businesses about contracting opportunities	☐ Failed to certify that all employment vacancies filled prior to contract execution were not filled to circumvent Section 3
☐ Failed to incorporate the Section 3 Clause into covered Section 3 bid solicitations or contracts	☐ Failed to notify potential subcontractors about Section 3 requirements
☐ Failed to provide priority consideration to Section 3 businesses for covered contracting opportunities	☐ Failed to post notices at the work site regarding Section 3 requirements in accordance with the Section 3 Clause
☐ Failed to select Section 3 businesses in accordance with the order of priority consideration as set forth in 24 CFR 135.38	☐ Failed to send to each labor organization or representative of workers a notice of Section 3 obligations in accordance with the Section 3 Clause
☐ Failed to award contracts to Section 3 businesses	☐ Failed to ensure that its subcontractors complied with Section 3
☐ Failed to ensure that its contractors/subcontractors complied with Section 3 requirements	☐ Failed to train and/or hire Section 3 residents for new employment opportunities
☐ Knowingly entered into contracts with contractors/subcontractors that failed to comply with Section 3 requirements	☐ Failed to provide priority consideration to Section 3 residents for employment or training opportunities in accordance with 24 CFR Part 135.34
☐ Failed to notify Section 3 residents about training and/or employment opportunities	☐ Failed to ensure that contracts awarded to subcontractors included the Section 3 Clause
☐ Failed to provide priority consideration to Section 3 residents for employment or training opportunities	☐ Failed to award subcontracts to Section 3 businesses
☐ Failed to select Section 3 residents for training or employment opportunities in accordance with the order of priority consideration set forth in 24 CFR 135.34	☐ Failed to award subcontracts to Section 3 businesses in accordance with the order of priority consideration set forth in 24 CFR 135.34
☐ Failed to hire Section 3 residents for new employment opportunities	☐ Retaliated against the complainant because complainant sought to enforce Section 3 requirements or participated in an investigation or proceeding regarding Section 3
☐ Retaliated against the complainant because complainant sought to enforce Section 3 requirements or participated in an investigation or proceeding regarding Section 3	☐ Other
☐ Other	

7. When did the act(s) checked above occur? (Include the most recent date if several dates are involved): <u> </u> / <u> </u> / <u> </u> Month Day Year * The date of the last alleged violation or occurrence must be less than 180 days from the date of submission to HUD.

8. Project name or location where alleged violation occurred? (If applicable): Project Name (if applicable): _____ Project Number: _____ Project Location: _____ Local Contracting Agency (LCA): _____

9. Identify the type of HUD funding used by the HUD funding recipient, organization, or contractor that this complaint is filed against: (Check all that apply)			
☐ PIH Operating Subsidy ☐ PIH Capital Fund Subsidy ☐ Choice Neighborhood Initiative Grant ☐ HOPE VI Grant	☐ Other PIH Assistance ☐ Community Development Block Grants (CDBG) ☐ HOME Investment Partnership Funding ☐ McKinney Homeless Assistance	☐ Neighborhood Stabilization Program (NSP) Assistance ☐ Other Community Development Assistance ☐ Lead-Based Paint ☐ Section 202 Supportive Housing for the Elderly	☐ Section 811 Supportive Housing for the Disabled ☐ Project Based Housing Vouchers ☐ Other HUD Housing Assistance ☐ Other Covered HUD Funding

Section 3 of the Housing and Urban Development Act of 1968

Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB number.

The information is given voluntarily and provides the basis for HUD's investigation of the complaint to determine if the allegations of noncompliance are valid. The Department will use the information provided as the basis for its determination of jurisdiction over a complainant's allegations. All information collected complies with the Privacy Act of 1974 and OMB Circular A-105. The information is unique to the processing of complaints alleging noncompliance with the Section 3 statute or implementing regulations. The information collected on this form will only be used by HUD during the investigation and resolution of complaints and will not be shared with persons or parties that are not directly involved with the complaint.

What is Section 3 of the Housing and Urban Development Act of 1968?

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that helps foster local economic development, neighborhood economic improvement, and individual self-sufficiency. The Section 3 requirements ensure that *when* new jobs or contracts are created during the usage of certain HUD funds, priority consideration is given to low- and very low-income persons residing in the community in which the funds are spent (regardless of race or gender), and to the businesses that substantially employ these persons.

Who are Section 3 residents and businesses?

Section 3 residents are:

- Public housing residents; or
- Persons who live in the area where a HUD-assisted project is located and who have a household income that falls below HUD's income limits for low- and very low-income.

Please visit: <http://www.huduser.org/portal/datasets/il.html> to determine the income limits for residents of your community.

A Section 3 business is one that meets one of the following criteria:

- Is 51 percent or more owned by Section 3 residents;
- Employs Section 3 residents for at least 30 percent of its full-time, permanent staff; or
- Provides evidence of a commitment to subcontract to Section 3 business concerns, 25 percent or more of the dollar amount of the awarded contract.

What HUD funding does Section 3 cover?

Section 3 applies to any of the following:

- A. Public and Indian Housing programs that receive: (1) Annual contributions for low income housing projects provided pursuant to section 5 of the U.S. Housing Act of 1937, as amended by the Quality Housing and Work Responsibility Act of 1990 (QHWRA); (2) Capital Fund Project assistance provided pursuant to Section 9 of QHWRA; (3) Operating Subsidy assistance provided pursuant to Section 9 of QHWRA.
- B. Housing and community development assistance extended for: (1) housing rehabilitation (including reduction and abatement of lead based paint hazards); (2) housing construction or (3) other public construction projects; and for which the contract and subcontract exceeds \$100,000; and
- C. Certain competitive HUD grant funding, such as: HOPE VI, Choice Neighborhoods, etc.).

What can you do about violations of the Law?

Remember, Section 3 applies to the awarding of jobs, training programs, and contracts, generated from projects receiving HUD financial assistance. If you believe that, as a low-income person or a Section 3 business concern, the responsibilities to provide economic opportunities under Section 3 have been violated, you have a right to file a complaint within 180 days of the last alleged occurrence of noncompliance.

Complaints alleging violations of the Section 3 regulatory requirements must be submitted to the appropriate HUD Regional Office of Fair Housing and Equal Opportunity listed below. Please be certain to sign and date this form, where indicated, to ensure prompt complaint processing.

HUD will send the complaint to the appropriate HUD recipient for resolution. If resolution by the recipient fails, HUD will investigate. If HUD finds that the complaint has merit, it will try to end the violation by informal resolution. If conciliation fails, HUD may initiate other steps to enforce the law, including but not limited to suspension and debarment of the recipient or contractors as applicable.

You can obtain assistance in learning about more Section 3 by visiting www.hud.gov/section3 or by contacting one of the HUD's Regional Offices of Fair Housing and Equal Opportunity.

Authority: Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1990, as amended by the Housing and Community Development Act of 1992, U.S.C. 1701u and implementing regulations at 24 CFR Part 135.

Purpose: The information requested on this form is to be used to investigate and process Section 3 complaints.

Use: The information requested will be used to process a complaint filed under Part 135. HUD may disclose certain information for Federal, State, and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as required and permitted by law.

Penalty: Failure to provide some or all of the requested information will result in delayed processing or rejection of this complaint for investigation.

Privacy Act of 1974 (P.L. 93-579)

All information collected is provided voluntarily and complies with the Privacy Act of 1974 and OMB Circular A-103. The information is unique to the processing of complaints alleging noncompliance with the Section 3 statute or implementing regulations. The information collected on this form will only be used by HUD during the investigation and resolution of complaints and will not be shared with persons or parties that are not directly involved with the complaint.

Instructions for completing the Section 3 Complaint Register

- Box 1:** Enter the requested information for the person that is filing the complaint (i.e., the complainant). This person must meet the definition of a Section 3 resident or business.
- Box 2:** Select the appropriate statement that describes your status as a Section 3 resident, businesses, or representative of either.
- Box 3:** Select the appropriate basis for the complaint which you are filing.
- Box 4:** Select the appropriate option that best describes the person or entity that you are filing this complaint against.
- Box 5:** Provide the name, address, and contact information for the person or entity that you are filing this complaint against.
- Box 6:** Select the statement(s) that best describe the alleged actions or omissions undertaken by the person or entity that you are filing this complaint against that are in violation of the requirements of Section 3. If you select "other", please briefly describe the alleged violation on the appropriate line.
- Box 7:** Provide the date that the alleged violation or action occurred. If the alleged act or violation is continuing in nature, please provide the date of the most recent occurrence.
- Box 8:** If this complaint is based upon acts or omissions that occurred at a specific job site, project, or location, please provide information that will allow HUD to identify the specific project that is the subject of the complaint that you are filing.
- Box 9:** Select the appropriate type of covered HUD funding that the recipient, organization, contractor/ subcontractor received or administered.
NOTE: In order for the complaint to be jurisdictional, covered HUD funding must be administered by the recipient, organization, contractor/subcontractor.
- Box 10:** Provide a detailed description of the acts or omissions undertaken by the person or entity that you filing this complaint against. Provide enough specific information to enable HUD to clearly understand the alleged violation and whether it demonstrates noncompliance with the requirements of Section 3.
- Box 11:** Please sign the complaint and enter the current date.
NOTE: By signing and dating this complaint you are affirming that your statements and allegations are true and accurate by penalty of perjury. Complaints must be signed and dated prior to acceptance by HUD for investigation.

Where to file your complaint:

Please fax or mail your complaint to the appropriate HUD Regional Office of Fair Housing and Equal Opportunity that has jurisdiction over the state for which you are located or where the alleged violation occurred. Inquiries regarding the status of your complaint should be directed to the appropriate Regional office of FHEO by telephone or email.

BOSTON REGIONAL OFFICE U.S. Department of Housing and Urban Development New England Office 10 Causeway Street, Suite 308 Boston, MA 02222 (617) 994-6300 (800) 827-8005 Fax: (617) 565-7313 Email: complaints_office_01@hud.gov *Covers the following states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont	FORT WORTH REGIONAL OFFICE U.S. Department of Housing and Urban Development Southwest Office 801 Cherry St., Unit 45, Suite 2500 Fort Worth, TX 76102 (817) 978-5900 (888) 560-6913 Fax: (817) 978-5876 Email: complaints_office_06@hud.gov *Covers the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas
NEW YORK REGIONAL OFFICE U.S. Department of Housing and Urban Development New York and New Jersey Office 26 Federal Plaza New York, NY 10278 (212) 264-1290 (800) 496-4294 Fax: (212) 264-9829 Email: complaints_office_02@hud.gov *Covers the following states: New Jersey and New York	KANSAS CITY REGIONAL OFFICE U.S. Department of Housing and Urban Development Great Plains Office 400 State Avenue Kansas City, KS 66101 (913) 551-6958 (800) 743-5323 Fax: (913) 551-6856 Email: complaints_office_07@hud.gov *Covers the following states: Iowa, Kansas, Missouri, and Nebraska
PHILADELPHIA REGIONAL OFFICE U.S. Department of Housing and Urban Development Mid-Atlantic Office 100 Penn Square East, 12th Floor Philadelphia, PA 19107 (215) 861-7646 (888) 799-2085 Fax: (215) 856-3449 Email: complaints_office_03@hud.gov *Covers the following states: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia	DENVER REGIONAL OFFICE U.S. Department of Housing and Urban Development Rocky Mountain Office 1670 Broadway Denver, CO 80202 (303) 672-5437 (800) 877-7353 Fax: (303) 672-5025 Email: complaints_office_08@hud.gov *Covers the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming

ATLANTA REGIONAL OFFICE U.S. Department of Housing and Urban Development Southeast Office 40 Marietta Street Atlanta, GA 30303 (404) 331-5140 (800) 440-8091 Fax: (404) 331-1021 Email: complaints_office_04@hud.gov *Covers the following states: Alabama, Puerto Rico, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and the Virgin Islands	SAN FRANCISCO REGIONAL OFFICE U.S. Department of Housing and Urban Development Pacific/Hawaii Office 600 Harrison Street Third Floor San Francisco, CA 94107 (415) 489-6536 (800) 347-3739 Fax: (415) 489-6560 Email: complaints_office_09@hud.gov *Covers the following states: Arizona, California, Guam, Hawaii, and Nevada
CHICAGO REGIONAL OFFICE U.S. Department of Housing and Urban Development Midwest Office 77 W. Jackson Boulevard, Suite 2101 Chicago, IL 60604 (312) 353-7776 (800) 765-9372 Fax: (312) 886-2837 Email: complaints_office_05@hud.gov *Covers the following states: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin	SEATTLE REGIONAL OFFICE U.S. Department of Housing and Urban Development Northwest/Alaska Office 909 First Avenue Seattle, WA 98104 (206) 220-5170 (800) 877-0246 Fax: (206) 220-5447 Email: complaints_office_10@hud.gov *Covers the following states: Alaska, Idaho, Oregon, and Washington

§ 135.38 Section 3 clause.

All Section 3 contracts shall include the following clause (referred to as the Section 3 clause):

A. The work 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 of 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 persons(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 subcontracts 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 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 24CFR 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 35.

F. Noncompliance with HUD's regulation 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 subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).

Good Faith Effort (GFE) Determination Checklist

This information must be submitted with your bid.

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded).

☒ Yes ☐ No

Instructions: In order to determine if a "Good Faith Effort" was made in soliciting HUBs for subcontracting opportunities, the following checklist and supporting documentation shall be completed by the Prime Contractor/Consultant, and returned with the Prime Contractor/Consultant's bid. This list contains the **minimum** efforts that should be put forth by the Prime Contractor/Consultant when attempting to achieve or exceed the goals of HUB Subcontractor participation. The Prime Contractor/Consultant may extend his/her efforts in soliciting HUB Subcontractor participation beyond what is listed below.

Did the Prime Contractor/Consultant . . .

☒ Yes	☐ No	1. To the extent practical, and consistent with standard and prudent industry standards, divide the contract work into the smallest feasible portions, to allow for maximum HUB Subcontractor participation?
☒ Yes	☐ No	2. Notify in writing a reasonable number of HUBs, allowing sufficient time for effective participation of the planned work to be subcontracted?
☒ Yes	☐ No	3. Provide HUBs that were genuinely interested in bidding on a subcontractor, adequate information regarding the project (i.e., plans, specifications, scope of work, bonding and insurance requirements, and a point of contact within the Prime Contractor/Consultant's organization)?
☒ Yes	☐ No	4. Negotiate in good faith with interested HUBs, and not reject bids from HUBs that qualify as lowest and responsive bidders?
☒ Yes	☐ No	5. Document reasons HUBs were rejected? Was a written rejection notice, including the reason for rejection, provided to the rejected HUBs?
☒ Yes	☐ No	6. If Prime Contractor/Consultant has zero (0) HUB participation, please explain the reasons why.

If "No" was selected, please explain and include any pertinent documentation with your bid.

If necessary, please use a separate sheet to answer the above questions.

Alan Hutson, PE

Printed Name of Authorized Representative



Signature

Vice President/Principal

Title

July 21, 2021

Date

Respondent: Return This Form With Response Submission.

Residence Certification/Tax Form

Pursuant to Texas Government Code §2252.001 *et seq.*, as amended, Jefferson County requests Resident Certification. §2252.001 *et seq.* of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

- (3) "Nonresident bidder" refers to a person who is not a resident.
- (4) "Resident bidder" refers to a person whose principal place of business is in this state, including a Contractor whose ultimate parent company or majority owner has its principal place of business in this state.

☒ I certify that Freese and Nichols, Inc. [company name] is a Resident Bidder of Texas as defined in Government Code §2252.001.

☐ I certify that _____ [company name] is a Nonresident Bidder as defined in Government Code §2252.001 and our principal place of business is _____ (city and state).

Taxpayer Identification Number (T.I.N.):	75-1531935
Company Name submitting bid/proposal:	Freese and Nichols, Inc.
Mailing address:	10497 Town and Country Way, Suite 500, Houston, TX 77024
If you are an individual, list the names and addresses of any partnership of which you are a general partner:	
N/A	

Property: List all taxable property owned by you or above partnerships in Jefferson County.

Jefferson County Tax Acct. No.*	Property address or location**
N/A	

* This is the property amount identification number assigned by the Jefferson County Appraisal District.

** For real property, specify the property address or legal description. For business property, specify the address where the property is located. For example, office equipment will normally be at your office, but inventory may be stored as a warehouse or other location.

Respondent: Return This Form With Response Submission.

Required Federal 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 Jefferson County which are federally funded, in whole or in part, are required to comply with the provisions below. Additionally, Prime Contractors with Jefferson County are required to include the provisions below in any contracts executed with subcontractors performing the scope of services 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 Jefferson County, all contracts made by Jefferson County under the Federal award shall contain provisions covering the following, as applicable.

1. REMEDIES

a. **Standard.** Contracts for more than the simplified acquisition threshold, currently set at \$250,000, 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. See 2 C.F.R. Part 200, Appendix II(A).

b. **Applicability.** This requirement applies to all federal grant and cooperative agreement programs.

2. TERMINATION FOR CAUSE AND CONVENIENCE

a. **Standard.** 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. See 2 C.F.R. Part 200, Appendix II(B).

b. **Applicability.** This requirement applies to all federal grant and cooperative agreement programs.

3. EQUAL EMPLOYMENT OPPORTUNITY

a. **Standard.** Except as otherwise provided under 41 C.F.R. Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. § 60-1.4(b), in accordance with Executive Order 11246, Equal Employment Opportunity (30 Fed. Reg. 12319, 12935, 3 C.F.R. 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 C.F.R. Part 60 (Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor). See 2 C.F.R. Part 200, Appendix II(C).

b. **Key Definitions.**

- i. **Federally Assisted Construction Contract.** The regulation at 41 C.F.R. § 60-1.3 defines a "federally assisted construction contract" as any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.
- ii. **Construction Work.** The regulation at 41 C.F.R. § 60-1.3 defines "construction work" as the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

c. Applicability. This requirement applies to all federal grant and cooperative agreement programs.

d. Required Language. The regulation at 41 C.F.R. Part 60-1.4(b) requires the insertion of the following contract clause.

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.

(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 non-compliance with the non-discrimination 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 non-compliance:

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 applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

4. DAVIS-BACON ACT

- a. All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The Contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
- b. 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.
- c. Additionally, Contractors are required to pay wages not less than once a week.

5. COMPLIANCE WITH COPELAND ANTI-KICKBACK ACT

- a. **Contractor.** The Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- b. **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as Jefferson County or Texas General Land Office may by 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 clauses 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."

6. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 (b)(1) of this section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 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 (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. Jefferson County or Texas General Land Office 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 (b)(2) of this section.

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

7. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

a. Standard. If the Federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the non-federal entity 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 Non-Federal entity 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 FEMA. See 2 C.F.R. Part 200, Appendix II(F).

b. Applicability. This requirement applies to "funding agreements," but it DOES NOT apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance 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. Funding Agreements Definition. The regulation at 37 C.F.R. § 401.2(a) 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.

8. CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

Clean Air Act

1. 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.
2. The Contractor agrees to report each violation to Jefferson County and understands and agrees that Jefferson County will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

Federal Water Pollution Control Act

1. The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The Contractor agrees to report each violation to Jefferson County and understands and agrees that Jefferson County will, in turn, report each violation as required to assure notification to the Texas General Land Office, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with assistance provided by the Texas General Land Office.

9. DEBARMENT AND SUSPENSION

The following provides a debarment and suspension clause. It incorporates an optional method of verifying that Contractors are not excluded or disqualified.

Suspension and Debarment

- (1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor's 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).
- (2) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by (insert name of recipient/subrecipient/applicant). If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Jefferson County, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

10. BYRD ANTI-LOBBYING AMENDMENT

Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended) Contractors who apply or bid for an award of \$100,000 or more shall 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 connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall 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 recipient who in turn will forward the certification(s) to the awarding agency.

11. PROCUREMENT OF RECOVERED MATERIALS

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.
 - i. Information about this requirement, along with the list of EPA designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>
 - ii. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

12. ACCESS TO RECORDS

The following access to records requirements apply to this contract:

- (1) The Contractor agrees to provide Jefferson County, the State of Texas, the Texas General Land Office (GLO), the U.S. Department of Housing and Urban Development (HUD), the Harr 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 which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- (2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- (3) The Contractor agrees to provide the Jefferson County or Texas General Land Office or its authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
- (4) In compliance with the Disaster Recovery Act of 2018, Jefferson County and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

13. CHANGES

a. **Standard.** To be eligible for FEMA assistance under the non-Federal entity's FEMA grant or cooperative agreement, the cost of the change, modification, change order, or constructive change must be allowable, allocable, within the scope of its grant or cooperative agreement, and reasonable for the completion of project scope.

b. Applicability. FEMA recommends, therefore, that a non-Federal entity include a changes clause in its contract that describes how, if at all, changes can be made by either party to alter the method, price, or schedule of the work without breaching the contract. The language of the clause may differ depending on the nature of the contract and the end-item procured.

14. U.S. DEPARTMENT OF HOMELAND SECURITY (DHS) SEAL, LOGO, AND FLAGS

"The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval."

15. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, AND EXECUTIVE ORDERS

"This is an acknowledgement that Texas General Land Office financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, policies, procedures, and directives."

16. NO OBLIGATION BY FEDERAL GOVERNMENT

"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."

17. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

"The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract."

18. 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 funds 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.

19. 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 Jefferson 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.

20. 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 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. Jefferson County reserves the right to verify any Contractor's status and document instances of debarment, suspension, or other ineligibility.

The 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 Jefferson 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 Jefferson 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.

21. 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.

22. 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:

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.

1. 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.
2. 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.

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 of the 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 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.
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 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.
7. 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 applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; 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.

23. EQUAL EMPLOYMENT OPPORTUNITY FOR WORKERS WITH DISABILITIES (48 CFR 52.222- 36)

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.

24. EQUAL EMPLOYMENT OPPORTUNITY FOR VEVRAA PROTECTED VETERANS

(41 CFR 60.300)

Jefferson 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.
 - 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.
 - vi. Fringe 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.
- c. Any other term, condition, or privilege of employment. 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 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. 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.
- f. As used in this clause:
 - i. All employment openings includes 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.
- g. The contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- h. 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.
- i. 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.

- j. 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.
- k. 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.
- l. 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.
- m. 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.
- n. 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.

25. 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.

26. 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.

27. GREEN BUILDING STANDARDS

At a minimum, Contractors 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/GLO 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/GLO 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/GLO 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.

28. HOLD HARMLESS AGREEMENT

Contractor shall indemnify, defend, and hold harmless Jefferson 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.

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.

29. LEAD-BASED PAINT (24 CFR 570.608)

Contractor 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.

30. 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, Offeror or potential Offeror to the amount of this Offer or the terms or conditions of this Offer.
- b. Pay or agree to pay any other person, firm, corporation Offeror or potential Offeror 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 Offer or the Offer of any other Offeror.
- c. Assemble in coordination with any other organization in an attempt to fix the price of the work.
- d. Contractors are expected to report any suspected fraud, collusion, or impropriety from the inception of solicitation through the end of the contract term.

31. 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 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.

32. 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; Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- b. 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;

- c. Establishing delivery schedules, where the requirement permits, which encourage 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.

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 reside 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.

33. 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 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 Jefferson 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 Proposal for services on a Jefferson County project of which the consultant or contractor was a designer or other previous contributor, or was an affiliate, subsidiary, joint-venturer 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 Proposal, that response shall be disqualified on the basis of conflict of interest, no matter when the conflict is discovered by Jefferson County.

34. 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 Jefferson 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 Proposal, 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.

Jefferson 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 Jefferson 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.

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.

35. 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.

36. RESTRICTIONS ON PUBLIC BUILDINGS AND PUBLIC WORKS PROJECTS CERTIFICATION

- a. 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.)
- b. Certification. Except as provided in paragraph (C) of this provision, by submission of its Proposal, Offeror 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.
- c. Inability to certify. An Offeror 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.
- d. 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.
- e. Notice. Offeror shall provide written notice to the Contracting Officer if, at any time before the contract award, Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- f. 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 an Offeror (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.
- g. 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.

37. 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 or 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 vehicles or construction equipment. In determining the origin of a product, Jefferson County will consider a product as produce in a foreign country if 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. 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.
- c. 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.

- d. 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.

38. TRANSACTIONS WITH TERRORIST ORGANIZATIONS PROHIBITED **(Texas Government Code 2252.152)**

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.

39. 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. Jefferson 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, Jefferson 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 Jefferson County may have in law or equity. Administrative remedies for non-performance, violation or breach of contract terms, or termination of contract for default may include suspension and debarment. Jefferson 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. Jefferson 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.

40. VERIFICATION NOT TO BOYCOTT ISRAEL

As required by Texas Government Code Chapter 2270, Contractor verifies that it does not boycott Israel and will not boycott Israel through the term of this Contract. For purposes of this verification, "boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with 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.

41. VENDORS/CONTRACTORS OWING TAXES OR OTHER DEBTS

Pursuant to Texas Local Government Code 262.0276, if, during the performance of this contract, Contractor's taxes become delinquent or Contractor becomes otherwise indebted to Jefferson

County, Jefferson County reserves the right to provide notice to the Auditor or Treasurer pursuant to Texas Local Government Code 154.045.

Whether or not a Contractor's taxes are delinquent will be determined by an independent review of the Tax Office records. Contractors are encouraged to visit the Tax Office website at <https://jeffcotax.com/>

set up a portfolio of their accounts and make their own initial determination of the status of their tax accounts. Contractors who believe a delinquency is reflected in error must contact the Tax Office to correct any errors or discrepancies prior to submitting their Proposal in order to ensure that their Proposal will be considered. Furthermore, if, during the performance of this contract, a Contractor's taxes become delinquent or a vendor becomes otherwise indebted to Jefferson County, Jefferson County reserves the right to provide notice to the Auditor or Treasurer pursuant to Texas Local Government Code §154.045. This policy is effective for all responses due on or after November 1, 2009.

42. 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.

REQUIRED CONTRACT PROVISIONS

Italics – Explanatory; not contract language

All Contracts

THRESHOLD	PROVISION	CITATION
None	(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 government-wide Excluded Parties List System 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.	2 CFR 200 APPENDIX II (H)
None	The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, and the Texas Department of Agriculture (TDA), and the City/County, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the GLO award, in order to make audits, examinations, excerpts, and transcripts and to closeout the City's/County's GLO contract with GLO.	2 CFR 200.336 (former 24 CFR 85.36(i)(10))
None	Grantees or subgrantees must retain all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.	2 CFR 200.333 (former 24 CFR (85.36(i)(11))
None	Sec. 176.003. CONFLICTS DISCLOSURE STATEMENT REQUIRED. (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if: (1) the vendor enters into a contract with the local governmental entity or the local governmental entity is considering entering into a contract with the vendor; and (2) the vendor: (A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that: (i) a contract between the local governmental entity and vendor has been executed; or (ii) the local governmental entity is considering entering into a contract with the vendor; (B) has given to the local government officer or a family member of the officer one or more gifts that have an	Chapter 176 of the Local Government Code

	aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that: (i) a contract between the local governmental entity and vendor has been executed; or (ii) the local governmental entity is considering entering into a contract with the vendor; or has a family relationship with the local government officer. (a-1) A local government officer is not required to file a conflicts disclosure statement in relation to a gift accepted by the officer or a family member of the officer if the gift is: (1) a political contribution as defined by Title 15, Election Code; or (2) food accepted as a guest. (a-2) A local government officer is not required to file a conflicts disclosure statement under Subsection (a) if the local governmental entity or vendor described by that subsection is an administrative agency created under Section 791.013, Government Code. (b) A local government officer shall file the conflicts disclosure statement with the records administrator of the local governmental entity not later than 5 p.m. on the seventh business day after the date on which the officer becomes aware of the facts that require the filing of the statement under Subsection (a).	
>\$10,000	<i>(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 effected and the basis for settlement.</i> Use the following language for contracts > \$ 10,000: <u>Termination for Cause</u> If the Contractor fails to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor violates any of the covenants, conditions, agreements, or stipulations of this Agreement, the City/County shall have the right to terminate this Agreement by giving written notice to the Contractor of such termination and specifying the effective date thereof, which shall be at least five days before the effective date of such termination. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Contractor pursuant to this Agreement shall, at the option of the City/County, be turned over to the City / County and become the property of the City / County. In the event of termination for cause, the Contractor shall be entitled to receive reasonable compensation for any necessary services actually and satisfactorily performed prior to the date of termination. Notwithstanding the above, the Contractor shall not be relieved of liability to the City/County for damages sustained by the City/County by virtue of any breach of contract by the	2 CFR 200 APPENDIX II(B)

	Contractor, and the City/County may set-off the damages it incurred as a result of the Contractor's breach of contract from any amounts it might otherwise owe the Contractor. <u>Termination for Convenience of the City/County</u> City/County may at any time and for any reason terminate Contractor's services and work at City/County's convenience upon providing written notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement. [Parties should include the manner by which such termination will be effected and the basis for settlement or any other terms and conditions concerning payment upon such termination.]	
>\$50,000	<i>(A) Contracts for more than \$50,000 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.</i> <u>Use the following language for contracts > \$50,000:</u> <u>Resolution of Program Non-compliance and Disallowed Costs</u> In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement, or the breach thereof, including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or GLO program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Agreement and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the costs of such mediation equally. <i>[This section may also provide for the qualifications of the mediator(s), the locale of meetings, time limits, or any other item of concern to the parties.]</i> If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.	2 CFR 200 APPENDIX II (A)
Option Contract Language for Procurement before Grant Funds Awarded	Payment of the fees [described in ____ section] shall be contingent on GLO funding. In the event that grant funds are not awarded to the City / County by TDA through the GLO program, this agreement shall be terminated by the City / County.	2 CFR 200.319(a)

Additional provisions for administration & engineering contracts associated with construction contracts:

THRESHOLD	PROVISION	CITATION
>\$10,000	<i>(Italics – Explanatory; not contract language)</i> 2 CFR 200 Appendix II (C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "<u>federally assisted construction contract</u>" in 41 CFR Part 60–1.3 <u>must include the equal opportunity clause provided under 41 CFR 60–1.4(b)</u>, 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." Therefore, include the following EO clause (not in italics) in construction contracts including construction associated administration and engineering contracts > \$10,000: §60-1.4(b) Equal opportunity clause. (b) Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause: The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause: 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	41 CFR §60-1.4(b) And 2 CFR 200 APPENDIX II (C)

	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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin. (3) The Contractor will not discourage 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. (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 (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. The applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings. (c) Subcontracts. Each nonexempt prime Contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts. (d) Incorporation by reference. The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate. (e) Incorporation by operation of the order. By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the Contractor is written. (f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings. [43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997; 79 FR 72993, Dec. 9, 2014; 80 FR 54934, September 11, 2015]	
>\$100,000	<i>§135.38 Section 3 clause</i> <i>All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):</i> 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	24 CFR §135.38

	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 subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).	

Construction Contracts

THRESHOLD	PROVISION	CITATION
>\$2,000 for Davis Bacon and Copeland "Anti-Kickback" Act; >\$100,000 for Contract Work Hours and Safety Standards Act	<i>HUD 4010 Federal labor standards provisions include:</i> 1. Davis Bacon Act (40 U.S.C. 3141 et seq.) as supplemented by DOL regulations (29 CFR part 5); 2. Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3); and 3. Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.) <i>See HUD 4010 contract language in Appendix F. Inclusion of this language into the construction contract satisfies contract requirements of the separate acts noted.</i>	
>\$2,000 (Satisfied with inclusion of HUD 4010)	<i>Compliance with the Davis-Bacon Act (40 U.S.C. 3141 et seq.) 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):</i> (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 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.	2 CFR 200 APPENDIX II (D)

>\$10,000	<i>(Italics – Explanatory; not contract language)</i> 2 CFR 200 Appendix II (C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “<u>federally assisted construction contract</u>” in 41 CFR Part 60–1.3, <u>must include the equal opportunity clause provided under 41 CFR 60–1.4(b)</u>, 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.” Therefore, include the following EO clause (not in italics) in construction contracts including construction associated administration and engineering contracts > \$10,000: §60-1.4(b) Equal opportunity clause. (b) Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause: The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause: 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	41 CFR §60-1.4(b) And 2 CFR 200 APPENDIX II (C)

	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 considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin. (3) The Contractor will not discourage 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. (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 (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. The applicant 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 applicant 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 applicant 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 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 applicant 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 applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings. (c) Subcontracts. Each nonexempt prime Contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts. (d) Incorporation by reference. The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate. (e) Incorporation by operation of the order. By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the Contractor is written. (f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings. [43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997; 79 FR 72993, Dec. 9, 2014; 80 FR 54934, September 11, 2015]	
≥\$100,000	(l) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award of \$100,000 or more 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 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.	2 CFR 200 APPENDIX II (I) and 24 CFR §570.303

>\$100,000 (Satisfied with inclusion of HUD 4010)	(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.	2 CFR 200 APPENDIX II (E)
>\$100,000	<i>§135.38 Section 3 clause</i> <i>All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):</i> 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	24 CFR §135.38

	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 subcontracts shall be given to Indian organizations and Indian-owned Economic 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 7(b).	
>\$150,000	(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).	2 CFR 200 APPENDIX II (G)

Respondent's Certification

I have carefully examined the Request for Statements of Qualifications, Scope of Services Background, and any other documents accompanying or made a part of this Request for Qualifications.

I hereby propose to furnish the goods or services specified in the Request for Qualifications. I agree that my proposal will remain firm for a period of up to 120 days in order to allow the County adequate time to evaluate the qualifications submitted.

I verify that all information contained in this proposal is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this proposal on behalf of the firm as its act and deed and that the firm is ready, willing and able to perform if awarded the contract.

I further certify, under oath, that this proposal is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a proposal for the same product or service: no officer, employee or agent of Jefferson County or any other Respondent is interested in said proposal: and that the undersigned executed this Respondent's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

Freese and Nichols, Inc.

NAME OF BUSINESS

BY:

Alan Hutson
SIGNATURE

Sworn to and subscribed before me
this 21st day of
July, 2021

Alan Hutson, PE | Vice President/Principal
NAME & TITLE, TYPED OR PRINTED

10497 Town and Country Way, Suite 500
MAILING ADDRESS

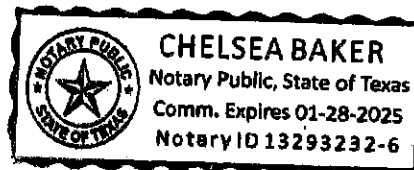
Houston, TX 77024
CITY, STATE, ZIP CODE

(713) 600-6847
TELEPHONE NUMBER

CPB
Notary Public

State of Texas

My Commission Expires: 1/28/2025



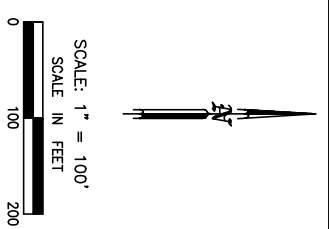
Respondent: Return This Form With Response Submission.

EXHIBIT A

EXHIBIT A (RFQ 21-015/JW) Page 1 of 1

C:\USERS\BTERRELL\DOCUMENTS\JOB STARTUPS\DRAINAGE_DISTRICTS\DD7\CRANE BAYOU PUMP STATION - PROPOSED GENERATOR BUILDING.DWG

© 2020 Microsoft Corporation © 2020 DigitalGlobe ©CNES (2020) Distribution Airbus DS



PROPOSED GENERATOR
BUILDING AND GENERATORS
LATITUDE: 29°55'47.12"N
LONGITUDE: 93°52'50.63"W

LJA Engineering, Inc.

2615 Calder Avenue, Suite 500
Beaumont, Texas 77702

Phone 409.833.3363
Fax 409.833.0317
FRN - F-1386



JEFFERSON COUNTY DD7
CRANE BAYOU PUMP STATION
PROPOSED GENERATOR BUILDING

EXHIBIT "A"

Date : 3/2/2020

Action	Name	Date
Design	CC	03/2020
Drawn	DBT	03/2020
Checked	CC	03/2020
Approved	AS	03/2020
Scale	AS SHOWN	
Sheet	1 of 1	



COMMERCIAL LEASE

USE OF THIS FORM BY PERSONS WHO ARE NOT MEMBERS OF THE TEXAS ASSOCIATION OF REALTORS®, INC. IS NOT AUTHORIZED.
©Texas Association of REALTORS®, Inc. 2014

Table of Contents

No.	Paragraph Description	Pg.	No.	Paragraph Description	Pg.
1.	Parties	2	24.	Assignment and Subletting	11
2.	Leased Premises	2	25.	Relocation	11
3.	Term		26.	Subordination	11
	A. Term	2	27.	Estoppel Certificates & Financial Info	11
	B. Delay of Occupancy	2	28.	Casualty Loss	12
	C. Certificate of Occupancy	3	29.	Condemnation	12
4.	Rent and Expenses		30.	Attorney's Fees	12
	A. Base Monthly Rent	3	31.	Representations	12
	B. Additional Rent	3	32.	Brokers	13
	C. First Full Month's Rent	3	33.	Addenda	13
	D. Prorated Rent	3	34.	Notices	13
	E. Place of Payment	3	35.	Special Provisions	14
	F. Method of Payment	3	36.	Agreement of the Parties	14
	G. Late Charges	4			
	H. Returned Checks	4			
5.	Security Deposit	4			
6.	Taxes	4			
7.	Utilities	4			
8.	Insurance	5			
9.	Use and Hours	6			
10.	Legal Compliance	6			
11.	Signs	6			
12.	Access By Landlord	7			
13.	Move-In Condition	7			
14.	Move-Out Condition	7			
15.	Maintenance and Repairs				
	A. Cleaning	7			
	B. Conditions Caused by a Party	8			
	C. Repair & Maintenance Responsibility	8			
	D. Repair Persons	8			
	E. HVAC Service Contract	9			
	F. Common Areas	9			
	G. Notice of Repairs	9			
	H. Failure to Repair	9			
16.	Alterations	9			
17.	Liens	9			
18.	Liability	9			
19.	Indemnity	10			
20.	Default	10			
21.	Abandonment, Interruption of Utilities, Removal of Property & Lockout	10			
22.	Holdover	10			
23.	Landlord's Lien & Security Interest	11			

ADDENDA & EXHIBITS (check all that apply)

- Exhibit _____
- Exhibit _____
- ☐ Commercial Lease Addendum for Broker's Fee (TXR-2102)
- ☐ Commercial Lease Addendum for Expense Reimbursement (TXR-2103)
- ☐ Commercial Lease Addendum for Extension Option (TXR-2104)
- ☐ Commercial Lease Addendum for Percentage Rent (TXR-2106)
- ☐ Commercial Lease Addendum for Parking (TXR-2107)
- ☐ Commercial Landlord's Rules and Regulations (TXR-2108)
- ☐ Commercial Lease Guaranty (TXR-2109)
- ☐ Commercial Lease Addendum for Right of First Refusal (TXR-2105)
- ☐ Commercial Lease Addendum for Optional Space (TXR-2110)
- ☐ Commercial Lease Addendum for Construction (TXR-2111) or (TXR-2112)
- ☐ Commercial Lease Addendum for Contingencies (TXR-2119)

Information About Brokerage Services (TXR-2501)

(TXR-2101) 4-1-14

Initialed for Identification by Landlord: SP, _____, and Tenant: _____

Page 1 of 15



COMMERCIAL LEASE

USE OF THIS FORM BY PERSONS WHO ARE NOT MEMBERS OF THE TEXAS ASSOCIATION OF REALTORS®, INC. IS NOT AUTHORIZED.
©Texas Association of REALTORS®, Inc. 2014

1. PARTIES: The parties to this lease are:

Landlord: Eastex Assets LLC _____; and

Tenant: Jefferson County _____.

2. LEASED PREMISES:

A. Landlord leases to Tenant the following described real property, known as the "leased premises," along with all its improvements (*Check only one box*):

☒ (1) Multiple-Tenant Property: Suite or Unit Number 2 containing approximately 6,565 square feet of rentable area in Eastex Emergency Center (project name) at 5550 Eastex Freeway (address) in Beaumont (city), Jefferson (county), Texas, which is legally described on attached Exhibit _____ or as follows: North Auto Park Lt 2 .522 Ac, 5550 Eastex Frwy as identified by the Jefferson County Appraisal District.

☐ (2) Single-Tenant Property: The real property containing approximately _____ square feet of rentable area at: _____ (address) in _____ (city), _____ (county), Texas, which is legally described on attached Exhibit _____ or as follows: _____

B. If Paragraph 2A(1) applies:

- (1) "Property" means the building or complex in which the leased premises are located, inclusive of any common areas, drives, parking areas, and walks; and
- (2) the parties agree that the rentable area of the leased premises may not equal the actual or useable area within the leased premises and may include an allocation of common areas in the Property. The rentable area ☐ will ☒ will not be adjusted if re-measured.

3. TERM:

A. Term: The term of this lease is month to month months and _____ days, commencing on: the date that State of Texas confirms agreement to provide personnel (Commencement Date) and ending on 15 days after the Tenant delivers written notice to Landlord (Expiration Date).

B. Delay of Occupancy: If Tenant is unable to occupy the leased premises on the Commencement Date because of construction on the leased premises to be completed by Landlord that is not substantially

DS
SP

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

complete or a prior tenant's holding over of the leased premises, Landlord will not be liable to Tenant for such delay and this lease will remain enforceable. In the event of such a delay, the Commencement Date will automatically be extended to the date Tenant is able to occupy the Property and the Expiration Date will also be extended by a like number of days, so that the length of this lease remains unchanged. If Tenant is unable to occupy the leased premises after the 90th day after the Commencement Date because of construction on the leased premises to be completed by Landlord that is not substantially complete or a prior tenant's holding over of the leased premises, Tenant may terminate this lease by giving written notice to Landlord before the leased premises become available to be occupied by Tenant and Landlord will refund to Tenant any amounts paid to Landlord by Tenant. This Paragraph 3B does not apply to any delay in occupancy caused by cleaning or repairs.

- C. Certificate of Occupancy: Unless the parties agree otherwise, Tenant is responsible for obtaining a certificate of occupancy for the leased premises if required by a governmental body.

4. RENT AND EXPENSES:

- A. Base Monthly Rent: On or before the first day of each month during this lease, Tenant will pay Landlord base monthly rent as described on attached Exhibit _____ or as follows:

Dates		Rate per rentable square foot (optional)		Base Monthly Rent \$
From	To	\$ Monthly Rate	\$ Annual Rate	
Start Date	End Date	/ rsf / month	/ rsf / year	13,000.00
		/ rsf / month	/ rsf / year	
		/ rsf / month	/ rsf / year	
		/ rsf / month	/ rsf / year	
		/ rsf / month	/ rsf / year	

- B. Additional Rent: In addition to the base monthly rent, Tenant will pay Landlord all other amounts, as provided by the attached (Check all that apply.):

- ☐ (1) Commercial Lease Addendum for Expense Reimbursement (TXR-2103)
☐ (2) Commercial Lease Addendum for Percentage Rent (TXR-2106)
☐ (3) Commercial Lease Addendum for Parking (TXR-2107)
☐ (4) _____

All amounts payable under the applicable addenda are deemed to be "rent" for the purposes of this lease.

- C. First Full Month's Rent: The first full monthly rent is due on or before Upon confirmation by the State of Texas that they of Texas that they will provide personnel for this project.

- D. Prorated Rent: If the Commencement Date is on a day other than the first day of a month, Tenant will pay Landlord as prorated rent, an amount equal to the base monthly rent multiplied by the following fraction: the number of days from the Commencement Date to the first day of the following month divided by the number of days in the month in which this lease commences. The prorated rent is due on or before the Commencement Date.

- E. Place of Payment: Tenant will remit all amounts due to Landlord under this lease to the following person at the place stated or to such other person or place as Landlord may later designate in writing:

Name: Eastex Assets LLC

Address: 1803 Willow Lakes Dr., Sugarland, TX 77479

- F. Method of Payment: Tenant must pay all rent timely without demand, deduction, or offset, except as permitted by law or this lease. If Tenant fails to timely pay any amounts due under this lease or if any

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

check of Tenant is returned to Landlord by the institution on which it was drawn, Landlord after providing written notice to Tenant may require Tenant to pay subsequent amounts that become due under this lease in certified funds. This paragraph does not limit Landlord from seeking other remedies under this lease for Tenant's failure to make timely payments with good funds.

G. **Late Charges:** If Landlord does not actually receive a rent payment at the designated place of payment within 5 days after the date it is due, Tenant will pay Landlord a late charge equal to 10% of the amount due. In this paragraph, the mailbox is not the agent for receipt for Landlord. The late charge is a cost associated with the collection of rent and Landlord's acceptance of a late charge does not waive Landlord's right to exercise remedies under Paragraph 20.

H. **Returned Checks:** Tenant will pay \$ _____ for each check Tenant tenders to Landlord which is returned by the institution on which it is drawn for any reason, plus any late charges until Landlord receives payment.

5. SECURITY DEPOSIT:

A. Upon execution of this lease, Tenant will pay \$ zero to Landlord as a security deposit.

B. Landlord may apply the security deposit to any amounts owed by Tenant under this lease. If Landlord applies any part of the security deposit during any time this lease is in effect to amounts owed by Tenant, Tenant must, within 10 days after receipt of notice from Landlord, restore the security deposit to the amount stated.

C. Within 60 days after Tenant surrenders the leased premises and provides Landlord written notice of Tenant's forwarding address, Landlord will refund the security deposit less any amounts applied toward amounts owed by Tenant or other charges authorized by this lease.

6. **TAXES:** Unless otherwise agreed by the parties, Landlord will pay all real property ad valorem taxes assessed against the leased premises.

7. UTILITIES:

A. The party designated below will pay for the following utility charges to the leased premises and any connection charges for the utilities. (Check all that apply.)

	<u>N/A</u>	<u>Landlord</u>	<u>Tenant</u>
(1) Water	☐	☐	☒
(2) Sewer	☐	☐	☒
(3) Electric	☐	☐	☒
(4) Gas	☒	☐	☐
(5) Telephone	☐	☐	☒
(6) Internet	☐	☐	☒
(7) Cable	☐	☐	☒
(8) Trash	☐	☐	☒
(9) _____	☐	☐	☐
(10) All other utilities	☐	☐	☒

B. The party responsible for the charges under Paragraph 7A will pay the charges directly to the utility service provider. The responsible party may select the utility service provider except that if Tenant selects the provider, any access or alterations to the Property or leased premises necessary for the utilities may be made only with Landlord's prior consent, which Landlord will not unreasonably withhold. If Landlord incurs any liability for utility or connection charges for which Tenant is responsible to pay

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

and Landlord pays such amount, Tenant will immediately upon written notice from Landlord reimburse Landlord such amount.

C. **Notice:** Tenant should determine if all necessary utilities are available to the leased premises and are adequate for Tenant's intended use.

D. **After-Hours HVAC Charges:** "HVAC services" means heating, ventilating, and air conditioning of the leased premises. (Check one box only.)

☐ (1) Landlord is obligated to provide the HVAC services to the leased premises only during the Property's operating hours specified under Paragraph 9C.

☐ (2) Landlord will provide the HVAC services to the leased premises during the operating hours specified under Paragraph 9C for no additional charge and will, at Tenant's request, provide HVAC services to the leased premises during other hours for an additional charge of \$ _____ per hour. Tenant will pay Landlord the charges under this paragraph immediately upon receipt of Landlord's invoice. Hourly charges are charged on a half-hour basis. Any partial hour will be rounded up to the next half hour. Tenant will comply with Landlord's procedures to make a request to provide the additional HVAC services under this paragraph.

☒ (3) Tenant will pay for the HVAC services under this lease.

~~8. INSURANCE:~~

~~A. During all times this lease is in effect, Tenant must, at Tenant's expense, maintain in full force and effect from an insurer authorized to operate in Texas:~~

~~(1) public liability insurance naming Landlord as an additional insured with policy limits on an occurrence basis in a minimum amount of: (check only (a) or (b) below)~~

☒ (a) \$1,000,000; or

☐ (b) \$2,000,000.

~~If neither box is checked the minimum amount will be \$1,000,000.~~

~~(2) personal property damage insurance for the business operations being conducted in the leased premises and contents in the leased premises in an amount sufficient to replace such contents after a casualty loss; and~~

~~(3) business interruption insurance sufficient to pay 12 months of rent payments;~~

~~B. Before the Commencement Date, Tenant must provide Landlord with a copy of insurance certificates evidencing the required coverage. If the insurance coverage is renewed or changes in any manner or degree at any time this lease is in effect, Tenant must, not later than 10 days after the renewal or change, provide Landlord a copy of an insurance certificate evidencing the renewal or change.~~

~~C. If Tenant fails to maintain the required insurance in full force and effect at all times this lease is in effect, Landlord may:~~

~~(1) purchase insurance that will provide Landlord the same coverage as the required insurance and Tenant must immediately reimburse Landlord for such expense; or~~

~~(2) exercise Landlord's remedies under Paragraph 20.~~

~~D. Unless the parties agree otherwise, Landlord will maintain in full force and effect insurance for: (1) fire and extended coverage in an amount to cover the reasonable replacement cost of the improvements of the Property; and (2) any public liability insurance in an amount that Landlord determines reasonable and appropriate.~~

~~E. If there is an increase in Landlord's insurance premiums for the leased premises or Property or its contents that is caused by Tenant, Tenant's use of the leased premises, or any improvements made by or for Tenant, Tenant will, for each year this lease is in effect, pay Landlord the increase immediately~~

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

after Landlord notifies Tenant of the increase. Any charge to Tenant under this Paragraph 8E will be equal to the actual amount of the increase in Landlord's insurance premium.

9. USE AND HOURS:

- A. Tenant may use the leased premises for the following purpose and no other: Medical related facility
- B. Unless otherwise specified in this lease, Tenant will operate and conduct its business in the leased premises during business hours that are typical of the industry in which Tenant represents it operates.
- C. The Property maintains operating hours of (*specify hours, days of week, and if inclusive or exclusive of weekends and holidays*): At Tenant's sole discretion.

10. LEGAL COMPLIANCE:

- A. Tenant may not use or permit any part of the leased premises or the Property to be used for:
- (1) any activity which is a nuisance or is offensive, noisy, or dangerous;
 - (2) any activity that interferes with any other tenant's normal business operations or Landlord's management of the Property;
 - (3) any activity that violates any applicable law, regulation, zoning ordinance, restrictive covenant, governmental order, owners' association rules, tenants' association rules, Landlord's rules or regulations, or this lease;
 - (4) any hazardous activity that would require any insurance premium on the Property or leased premises to increase or that would void any such insurance;
 - (5) any activity that violates any applicable federal, state, or local law, including but not limited to those laws related to air quality, water quality, hazardous materials, wastewater, waste disposal, air emissions, or other environmental matters;
 - (6) the permanent or temporary storage of any hazardous material; or
 - (7) _____
- B. "Hazardous material" means any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance, solvent, or oil as defined by any federal, state, or local environmental law, regulation, ordinance, or rule existing as of the date of this lease or later enacted.
- C. Landlord does not represent or warrant that the leased premises or Property conform to applicable restrictions, zoning ordinances, setback lines, parking requirements, impervious ground cover ratio requirements, and other matters that may relate to Tenant's intended use. Tenant must satisfy itself that the leased premises may be used as Tenant intends by independently investigating all matters related to the use of the leased premises or Property. Tenant agrees that it is not relying on any warranty or representation made by Landlord, Landlord's agent, or any broker concerning the use of the leased premises or Property.

11. SIGNS:

- A. Tenant may not post or paint any signs or place any decoration outside the leased premises or on the Property without Landlord's written consent. Landlord may remove any unauthorized sign or decorations, and Tenant will promptly reimburse Landlord for its cost to remove any unauthorized sign or decorations.

(TXR-2101) 4-1-14

Initialed for Identification by Landlord: SP, _____, and Tenant: [Signature]

Page 6 of 15

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

- B. Any authorized sign must comply with all laws, restrictions, zoning ordinances, and any governmental order relating to signs on the leased premises or Property. Landlord may temporarily remove any authorized sign to complete repairs or alterations to the leased premises or the Property.
- C. By providing written notice to Tenant before this lease ends, Landlord may require Tenant, upon move-out and at Tenant's expense, to remove, without damage to the Property or leased premises, any or all signs or decorations that were placed on the Property or leased premises by or at the request of Tenant. Any signs or decorations that Landlord does not require Tenant to remove and that are fixtures, become the property of the Landlord and must be surrendered to Landlord at the time this lease ends.

12. ACCESS BY LANDLORD:

- A. During Tenant's normal business hours Landlord may enter the leased premises for any reasonable purpose, including but not limited to purposes for repairs, maintenance, alterations, and showing the leased premises to prospective tenants or purchasers. Landlord may access the leased premises after Tenant's normal business hours if: (1) entry is made with Tenant's permission; or (2) entry is necessary to complete emergency repairs. Landlord will not unreasonably interfere with Tenant's business operations when accessing the leased premises.
- B. During the last _____ days of this lease, Landlord may place a "For Lease" or similarly worded sign on the leased premises.

13. MOVE-IN CONDITION: Tenant has inspected the leased premises and accepts it in its present (as-is) condition unless expressly noted otherwise in this lease or in an addendum. Landlord and any agent have made no express or implied warranties as to the condition or permitted use of the leased premises or Property.

14. MOVE-OUT CONDITION AND FORFEITURE OF TENANT'S PERSONAL PROPERTY:

- A. At the time this lease ends, Tenant will surrender the leased premises in the same condition as when received, except for normal wear and tear. Tenant will leave the leased premises in a clean condition free of all trash, debris, personal property, hazardous materials, and environmental contaminants.
- B. If Tenant leaves any personal property in the leased premises after Tenant surrenders possession of the leased premises, Landlord may: (1) require Tenant, at Tenant's expense, to remove the personal property by providing written notice to Tenant; or (2) retain such personal property as forfeited property to Landlord.
- C. "Surrender" means vacating the leased premises and returning all keys and access devices to Landlord. "Normal wear and tear" means deterioration that occurs without negligence, carelessness, accident, or abuse.
- D. By providing written notice to Tenant before this lease ends, Landlord may require Tenant, upon move-out and at Tenant's expense, to remove, without damage to the Property or leased premises, any or all fixtures that were placed on the Property or leased premises by or at the request of Tenant. Any fixtures that Landlord does not require Tenant to remove become the property of the Landlord and must be surrendered to Landlord at the time this lease ends.

15. MAINTENANCE AND REPAIRS:

- A. Cleaning: Tenant must keep the leased premises clean and sanitary and promptly dispose of all garbage in appropriate receptacles. ☐ Landlord ☒ Tenant will provide, at its expense, janitorial services to the leased premises that are customary and ordinary for the property type. Tenant will maintain any grease trap on the Property which Tenant uses, including but not limited to periodic

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

emptying and cleaning, as well as making any modification to the grease trap that may be necessary to comply with any applicable law.

- B. Repairs of Conditions Caused by a Party: Each party must promptly repair a condition in need of repair that is caused, either intentionally or negligently, by that party or that party's guests, patrons, invitees, contractors or permitted subtenants.
- C. Repair and Maintenance Responsibility: Except as otherwise provided by this Paragraph 15, the party designated below, at its expense, is responsible to maintain and repair the following specified items in the leased premises (if any). The specified items must be maintained in clean and good operable condition. If a governmental regulation or order requires a modification to any of the specified items, the party designated to maintain the item must complete and pay the expense of the modification. The specified items include and relate only to real property in the leased premises. Tenant is responsible for the repair and maintenance of its personal property. *(Check all that apply.)*

	N/A	Landlord	Tenant
(1) Foundation, exterior walls, roof, and other structural components	☐	☒	☐
(2) Glass and windows	☐	☐	☒
(3) Fire protection equipment	☐	☐	☒
(4) Fire sprinkler systems	☐	☐	☒
(5) Exterior & overhead doors, including closure devices, molding, locks, and hardware	☐	☐	☒
(6) Grounds maintenance, including landscaping and irrigation systems	☐	☐	☒
(7) Interior doors, including closure devices, frames, molding, locks, and hardware	☐	☐	☒
(8) Parking areas and walks	☐	☐	☒
(9) Plumbing systems, drainage systems and sump pumps	☐	☐	☒
(10) Electrical systems, mechanical systems	☐	☐	☒
(11) Ballast and lamp replacement	☐	☐	☒
(12) Heating, Ventilation and Air Conditioning (HVAC) systems	☐	☐	☒
(13) HVAC system replacement	☐	☐	☒
(14) Signs and lighting:	☐	☐	☐
(a) Pylon	☐	☐	☐
(b) Facia	☐	☐	☐
(c) Monument	☐	☐	☐
(d) Door/Suite	☐	☐	☐
(e) Other: <u>At Tenant's discretion</u>	☐	☐	☒
(15) Extermination and pest control, excluding wood-destroying insects.	☐	☐	☒
(16) Fences and Gates	☒	☐	☐
(17) Storage yards and storage buildings	☒	☐	☐
(18) Wood-destroying insect treatment and repairs	☐	☐	☒
(19) Cranes and related systems	☒	☐	☐
(20)	☐	☐	☐
(21)	☐	☐	☐
(22) All other items and systems.	☐	☐	☐

- D. Repair Persons: Repairs must be completed by trained, qualified, and insured repair persons.

(TXR-2101) 4-1-14

Initialed for Identification by Landlord

^{DS}
 SP

, _____, and Tenant: _____

Page 8 of 15

- E. HVAC Service Contract: If Tenant maintains the HVAC system under Paragraph 15C(12), Tenant ☐ is ☒ is not required to maintain, at its expense, a regularly scheduled maintenance and service contract for the HVAC system. The maintenance and service contract must be purchased from a HVAC maintenance company that regularly provides such contracts to similar properties. If Tenant fails to maintain a required HVAC maintenance and service contract in effect at all times during this lease, Landlord may do so and Tenant will reimburse Landlord for the expense of such maintenance and service contract or Landlord may exercise Landlord's remedies under Paragraph 20.
- F. Common Areas: Landlord will maintain any common areas in the Property in a manner as Landlord determines to be in the best interest of the Property. Landlord will maintain any elevator and signs in the common area. Landlord may change the size, dimension, and location of any common areas, provided that such change does not materially impair Tenant's use and access to the leased premises. Tenant has the non-exclusive license to use the common areas in compliance with Landlord's rules and regulations. Tenant may not solicit any business in the common areas or interfere with any other person's right to use the common areas. This paragraph does not apply if Paragraph 2A(2) applies.
- G. Notice of Repairs: Tenant must promptly notify Landlord of any item that is in need of repair and that is Landlord's responsibility to repair. All requests for repairs to Landlord must be in writing.
- H. Failure to Repair: Landlord must make a repair for which Landlord is responsible within a reasonable period of time after Tenant provides Landlord written notice of the needed repair. If Tenant fails to repair or maintain an item for which Tenant is responsible within 10 days after Landlord provides Tenant written notice of the needed repair or maintenance, Landlord may: (1) repair or maintain the item, without liability for any damage or loss to Tenant, and Tenant must immediately reimburse Landlord for the cost to repair or maintain; or (2) exercise Landlord's remedies under Paragraph 20.

16. ALTERATIONS:

- A. Tenant may not alter (including making any penetrations to the roof, exterior walls or foundation), improve, or add to the Property or the leased premises without Landlord's written consent. Landlord will not unreasonably withhold consent for the Tenant to make reasonable non-structural alterations, modifications, or improvements to the leased premises.
- B. Tenant may not alter any locks or any security devices on the Property or the leased premises without Landlord's consent. If Landlord authorizes the changing, addition, or rekeying of any locks or other security devices, Tenant must immediately deliver the new keys and access devices to Landlord.
- C. If a governmental order requires alteration or modification to the leased premises, the party obligated to maintain and repair the item to be modified or altered as designated in Paragraph 15 will, at its expense, modify or alter the item in compliance with the order and in compliance with Paragraphs 16A and 17.
- D. Any alterations, improvements, fixtures or additions to the Property or leased premises installed by either party during the term of this lease will become Landlord's property and must be surrendered to Landlord at the time this lease ends, except for those fixtures Landlord requires Tenant to remove under Paragraph 11 or 14 or if the parties agree otherwise in writing.

17. LIENS: Tenant may not do anything that will cause the title of the Property or leased premises to be encumbered in any way. If Tenant causes a lien to be filed against the Property or leased premises, Tenant will within 20 days after receipt of Landlord's demand: (1) pay the lien and have the lien released of record; or (2) take action to discharge the lien. Tenant will provide Landlord a copy of any release Tenant obtains pursuant to this paragraph.

18. LIABILITY: To the extent permitted by law, Landlord is NOT responsible to Tenant or Tenant's employees, patrons, guests, or invitees for any damages, injuries, or losses to person or property caused by:

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

- A. an act, omission, or neglect of: Tenant; Tenant's agent; Tenant's guest; Tenant's employees; Tenant's patrons; Tenant's invitees; or any other tenant on the Property;
- B. fire, flood, water leaks, ice, snow, hail, winds, explosion, smoke, riot, strike, interruption of utilities, theft, burglary, robbery, assault, vandalism, other persons, environmental contaminants, or other occurrences or casualty losses.

19. INDEMNITY: ~~Each party will indemnify, defend, and hold the other party harmless from any property damage, personal injury, suits, actions, liabilities, damages, cost of repairs or service to the leased premises or Property, or any other loss caused, negligently or otherwise, by that party or that party's employees, patrons, guests, or invitees.~~

20. DEFAULT:

- A. If Landlord fails to comply with this lease within 30 days after Tenant notifies Landlord of Landlord's failure to comply, Landlord will be in default and Tenant may seek any remedy provided by law. If, however, Landlord's non-compliance reasonably requires more than 30 days to cure, Landlord will not be in default if the cure is commenced within the 30-day period and is diligently pursued.
- B. If Landlord does not actually receive at the place designated for payment any rent due under this lease within 5 days after it is due, Tenant will be in default. If Tenant fails to comply with this lease for any other reason within 10 days after Landlord notifies Tenant of its failure to comply, Tenant will be in default.
- C. If Tenant is in default, Landlord may, with at least 3 days written notice to Tenant: (i) terminate this lease, or (ii) terminate Tenant's right to occupy the leased premises without terminating this lease and may accelerate all rents which are payable during the remainder of this lease or any renewal period. Landlord will attempt to mitigate any damage or loss caused by Tenant's breach by using commercially reasonable means. If Tenant is in default, Tenant will be liable for:
- (1) any lost rent;
 - (2) Landlord's cost of reletting the leased premises, including brokerage fees, advertising fees, and other fees necessary to relet the leased premises;
 - (3) repairs to the leased premises for use beyond normal wear and tear;
 - (4) all Landlord's costs associated with eviction of Tenant, such as attorney's fees, court costs, and prejudgment interest;
 - (5) all Landlord's costs associated with collection of rent such as collection fees, late charges, and returned check charges;
 - (6) cost of removing any of Tenant's equipment or fixtures left on the leased premises or Property;
 - (7) cost to remove any trash, debris, personal property, hazardous materials, or environmental contaminants left by Tenant or Tenant's employees, patrons, guests, or invitees in the leased premises or Property;
 - (8) cost to replace any unreturned keys or access devices to the leased premises, parking areas, or Property; and
 - (9) any other recovery to which Landlord may be entitled under this lease or under law.

21. ABANDONMENT, INTERRUPTION OF UTILITIES, REMOVAL OF PROPERTY, AND LOCKOUT:

Chapter 93 of the Texas Property Code governs the rights and obligations of the parties with regard to:

- (a) abandonment of the leased premises;
- (b) interruption of utilities;
- (c) removal of Tenant's property; and
- (d) "lock-out" of Tenant.

22. HOLDOVER: If Tenant fails to vacate the leased premises at the time this lease ends, Tenant will become a tenant-at-will and must vacate the leased premises immediately upon receipt of demand from Landlord. No holding over by Tenant, with or without the consent of Landlord, will extend this lease. Tenant will

(TXR-2101) 4-1-14

Initialed for Identification by Landlord SP, _____, and Tenant: _____

Page 10 of 15

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

indemnify Landlord and any prospective tenants for any and all damages caused by the holdover. Rent for any holdover period will be 150% of the base monthly rent plus any additional rent calculated on a daily basis and will be immediately due and payable daily without notice or demand.

23. LANDLORD'S LIEN AND SECURITY INTEREST: To secure Tenant's performance under this lease, Tenant grants to Landlord a lien and security interest against all of Tenant's nonexempt personal property that is in the leased premises or on the Property. This lease is a security agreement for the purposes of the Uniform Commercial Code. Landlord may file a financing statement to perfect Landlord's security interest under the Uniform Commercial Code.

24. ASSIGNMENT AND SUBLETTING: Landlord may assign this lease to any subsequent owner of the Property. Tenant may not assign this lease or sublet any part of the leased premises without Landlord's written consent. An assignment of this lease or subletting of the leased premises without Landlord's written consent is voidable by Landlord. If Tenant assigns this lease or sublets any part of the leased premises, Tenant will remain liable for all of Tenant's obligations under this lease regardless if the assignment or sublease is made with or without the consent of Landlord.

25. RELOCATION:

- ☐ A. By providing Tenant with not less than 90 days advanced written notice, Landlord may require Tenant to relocate to another location in the Property, provided that the other location is equal in size or larger than the leased premises then occupied by Tenant and contains similar leasehold improvements. Landlord will pay Tenant's reasonable out-of-pocket moving expenses for moving to the other location. "Moving expenses" means reasonable expenses payable to professional movers, utility companies for connection and disconnection fees, wiring companies for connecting and disconnecting Tenant's office equipment required by the relocation, and printing companies for reprinting Tenant's stationary and business cards. A relocation of Tenant will not change or affect any other provision of this lease that is then in effect, including rent and reimbursement amounts, except that the description of the suite or unit number will automatically be amended.
- ☒ B. Landlord may not require Tenant to relocate to another location in the Property without Tenant's prior consent.

26. SUBORDINATION:

- A. This lease and Tenant's leasehold interest are and will be subject, subordinate, and inferior to:
- (1) any lien, encumbrance, or ground lease now or hereafter placed on the leased premises or the Property that Landlord authorizes;
 - (2) all advances made under any such lien, encumbrance, or ground lease;
 - (3) the interest payable on any such lien or encumbrance;
 - (4) any and all renewals and extensions of any such lien, encumbrance, or ground lease;
 - (5) any restrictive covenant affecting the leased premises or the Property; and
 - (6) the rights of any owners' association affecting the leased premises or Property.
- B. Tenant must, on demand, execute a subordination, attornment, and non-disturbance agreement that Landlord may request that Tenant execute, provided that such agreement is made on the condition that this lease and Tenant's rights under this lease are recognized by the lien-holder.

27. ESTOPPEL CERTIFICATES & FINANCIAL INFORMATION:

- A. Within 10 days after receipt of a written request from Landlord, Tenant will execute and deliver to Landlord an estoppel certificate that identifies the terms and conditions of this lease.

(TXR-2101) 4-1-14

Initialed for Identification by Landlord: SP, _____, and Tenant: [Signature]

Page 11 of 15

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

- B. Within 30 days after receipt of a written request from Landlord, Tenant will provide to Landlord Tenant's current financial information (balance sheet and income statement). Landlord may request the financial information no more frequently than once every 12 months.

28. CASUALTY LOSS:

- A. Tenant must immediately notify Landlord of any casualty loss in the leased premises. Within 20 days after receipt of Tenant's notice of a casualty loss, Landlord will notify Tenant if the leased premises are less than or more than 50% unusable, on a per square foot basis, and if Landlord can substantially restore the leased premises within 120 days after Tenant notifies Landlord of the casualty loss.
- B. If the leased premises are less than 50% unusable and Landlord can substantially restore the leased premises within 120 days after Tenant notifies Landlord of the casualty, Landlord will restore the leased premises to substantially the same condition as before the casualty. If Landlord fails to substantially restore within the time required, Tenant may terminate this lease.
- C. If the leased premises are more than 50% unusable and Landlord can substantially restore the leased premises within 120 days after Tenant notifies Landlord of the casualty, Landlord may: (1) terminate this lease; or (2) restore the leased premises to substantially the same condition as before the casualty. If Landlord chooses to restore and does not substantially restore the leased premises within the time required, Tenant may terminate this lease.
- D. If Landlord notifies Tenant that Landlord cannot substantially restore the leased premises within 120 days after Tenant notifies Landlord of the casualty loss, Landlord may: (1) choose not to restore and terminate this lease; or (2) choose to restore, notify Tenant of the estimated time to restore, and give Tenant the option to terminate this lease by notifying Landlord within 10 days.
- E. If this lease does not terminate because of a casualty loss, rent will be reduced from the date Tenant notifies Landlord of the casualty loss to the date the leased premises are substantially restored by an amount proportionate to the extent the leased premises are unusable.

29. CONDEMNATION: If after a condemnation or purchase in lieu of condemnation the leased premises are totally unusable for the purposes stated in this lease, this lease will terminate. If after a condemnation or purchase in lieu of condemnation the leased premises or Property are partially unusable for the purposes of this lease, this lease will continue and rent will be reduced in an amount proportionate to the extent the leased premises are unusable. Any condemnation award or proceeds in lieu of condemnation are the property of Landlord and Tenant has no claim to such proceeds or award. Tenant may seek compensation from the condemning authority for its moving expenses and damages to Tenant's personal property.

30. ATTORNEY'S FEES: Any person who is a prevailing party in any legal proceeding brought under or related to the transaction described in this lease is entitled to recover prejudgment interest, reasonable attorney's fees, and all other costs of litigation from the nonprevailing party.

31. REPRESENTATIONS:

- A. Tenant's statements in this lease and any application for rental are material representations relied upon by Landlord. Each party signing this lease represents that he or she is of legal age to enter into a binding contract and is authorized to sign the lease. If Tenant makes any misrepresentation in this lease or in any application for rental, Tenant is in default.
- B. Landlord is not aware of any material defect on the Property that would affect the health and safety of an ordinary person or any environmental hazard on or affecting the Property that would affect the

(TXR-2101) 4-1-14

Initialed for Identification by Landlord

, _____, and Tenant: _____

Page 12 of 15

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

health or safety of an ordinary person, except: _____

- C. Each party and each signatory to this lease represents that: (1) it is not a person named as a Specially Designated National and Blocked Person as defined in Presidential Executive Order 13224; (2) it is not acting, directly or indirectly, for or on behalf of a Specially Designated and Blocked Person; and (3) is not arranging or facilitating this lease or any transaction related to this lease for a Specially Designated and Blocked Person. Any party or any signatory to this lease who is a Specially Designated and Blocked person will indemnify and hold harmless any other person who relies on this representation and who suffers any claim, damage, loss, liability or expense as a result of this representation.

32. BROKERS:A. ~~The brokers to this lease are:~~

Principal Broker: _____

Cooperating Broker: _____

Agent: _____

Agent: _____

Address: _____

Address: _____

Phone & Fax: _____

Phone & Fax: _____

E-mail: _____

E-mail: _____

License No.: _____

License No.: _____

Principal Broker: ~~(Check only one box)~~

Cooperating Broker represents Tenant.

- ☐ ~~represents Landlord only.~~
☐ ~~represents Tenant only.~~
☐ ~~is an intermediary between Landlord and Tenant.~~

B. ~~Fees:~~

- ☐ ~~(1) Principal Broker's fee will be paid according to: (Check only one box):~~
☐ ~~(a) a separate written commission agreement between Principal Broker and:~~
☐ ~~Landlord~~ ☐ ~~Tenant.~~
☐ ~~(b) the attached Commercial Lease Addendum for Broker's Fee (TXR-2102).~~
- ☐ ~~(2) Cooperating Broker's fee will be paid according to: (Check only one box):~~
☐ ~~(a) a separate written commission agreement between Cooperating Broker and:~~
☐ ~~Principal Broker~~ ☐ ~~Landlord~~ ☐ ~~Tenant.~~
☐ ~~(b) the attached Commercial Lease Addendum for Broker's Fee (TXR-2102).~~

33. **ADDENDA:** Incorporated into this lease are the addenda, exhibits and other information marked in the Addenda and Exhibit section of the Table of Contents. If Landlord's Rules and Regulations are made part of this lease, Tenant agrees to comply with the Rules and Regulations as Landlord may, at its discretion, amend from time to time.

34. **NOTICES:** All notices under this lease must be in writing and are effective when hand-delivered, sent by mail, or sent by facsimile transmission to:

Landlord at: Eastex Assets, LLCAddress: 1803 Willow Lakes Dr., Sugarland, TX 77479

(TXR-2101) 4-1-14

Initialed for Identification by Landlord:

DS
SP

, _____, and Tenant: _____

Page 13 of 15

5550 Eastex Freeway
Commercial Lease concerning: **Beaumont, TX 77708**

Phone: **(832)922-9596** Fax: _____
and a copy to: _____

Address: _____

Phone: _____ Fax: _____

☒ Landlord also consents to receive notices by e-mail at: **pirali5@windstream.net**

Tenant at the leased premises,

and a copy to: **Judge Jeff Branick**

Address: **1149 Pearl St., Beaumont, TX 77701**

Phone: **(409)835-8599** Fax: _____

☒ Tenant also consents to receive notices by e-mail at: **dclark@co.jefferson.tx.us**

35. SPECIAL PROVISIONS:

Landlord delivers the property "as-is, where-is" without warranty or representation as to the suitability of the property for Tenant's use.

Commencement begins on the date in which the State of Texas confirms to Judge Branick that they will provide personnel to the County for this project. Rent will also begin that day and be due on the same date each month.

During Tenant's occupancy, Landlord may continue to market the property for lease.

With 60 days written notice, Landlord may require the Tenant to vacate the property.

36. AGREEMENT OF PARTIES:

- A. Entire Agreement: This lease contains the entire agreement between Landlord and Tenant and may not be changed except by written agreement.
- B. Binding Effect: This lease is binding upon and inures to the benefit of the parties and their respective heirs, executors, administrators, successors, and permitted assigns.
- C. Joint and Several: All Tenants are jointly and severally liable for all provisions of this lease. Any act or notice to, or refund to, or signature of, any one or more of the Tenants regarding any term of this lease, its renewal, or its termination is binding on all Tenants.
- D. Controlling Law: The laws of the State of Texas govern the interpretation, performance, and enforcement of this lease.
- E. Severable Clauses: If any clause in this lease is found invalid or unenforceable by a court of law, the remainder of this lease will not be affected and all other provisions of this lease will remain valid and enforceable.
- F. Waiver: Landlord's delay, waiver, or non-enforcement of acceleration, contractual or statutory lien, rental due date, or any other right will not be deemed a waiver of any other or subsequent breach by Tenant or any other term in this lease.

(TXR-2101) 4-1-14

Initialed for Identification by Landlord: SP, _____, and Tenant: JB

Page 14 of 15

5550 Eastex Freeway

Commercial Lease concerning: Beaumont, TX 77708

G. Quiet Enjoyment: Provided that Tenant is not in default of this lease, Landlord covenants that Tenant will enjoy possession and use of the leased premises free from material interference.

H. Force Majeure: If Landlord's performance of a term in this lease is delayed by strike, lock-out, shortage of material, governmental restriction, riot, flood, or any cause outside Landlord's control, the time for Landlord's performance will be abated until after the delay.

I. Time: Time is of the essence. The parties require strict compliance with the times for performance.

Brokers are not qualified to render legal advice, property inspections, surveys, engineering studies, environmental assessments, tax advice, or compliance inspections. The parties should seek experts to render such services. **READ THIS LEASE CAREFULLY.** If you do not understand the effect of this Lease, consult your attorney **BEFORE** signing.

Landlord: Eastex Assets LLCTenant: Jefferson County

By: _____

DocuSigned by:

By (signature): Shiraz PiraliPrinted Name: Shiraz PiraliTitle: Managing Partner Date: 8/12/2021

By: _____

By (signature): _____

Printed Name: _____

Title: _____ Date: _____

By: _____

By (signature): Jeff HarnickPrinted Name: Jeff HarnickTitle: County Judge Date: 8/11/21

By: _____

By (signature): _____

Printed Name: _____

Title: _____ Date: _____

ATTEST:

Theresa Goodness
Theresa Goodness
Interim County Clerk



JEFFERSON COUNTY

215 FRANKLIN STREET, SUITE 202
BEAUMONT, TEXAS 77701

**RISK MANAGEMENT**

PHONE: (409) 835-8672
FAX: (409) 835-8634

Whom It May Concern:

Please accept this letter as evidence of liability coverage for Jefferson County and its employees through a qualified self-insurance program. The program provides liability coverage for County employees in the performance of their duties and responds to actions brought under the Texas Tort Claims Act, § 101.001 et seq., the Federal Civil Rights Act, § 42 U.S.C., 1983, and other applicable statutes.

The liability of Jefferson County for personal injury and property damage is controlled by the Texas Tort Claims Act, V.T.C.A. Civil Practice and Remedies Code, Chapter 101, Section 101.021. The limits of liability are \$100,000 per person / \$300,000 for each single occurrence of bodily injury or death and \$100,000 for each single occurrence for injury to or destruction of property. Following this limited exposure, Jefferson County, as a Governmental Agency, is protected by the doctrine of sovereign immunity, and as such, is self-insured up to the aforementioned limits. Jefferson County does not waive sovereign immunity.

The County's self-insurance program is managed by the Commissioners Court for the sole purpose of providing defense of and payment of claims against the County and its officers, employees, and members of boards and commissions when and while acting in the ordinary course of their duties, powers, and functions.

The County acknowledges that it is a political subdivision of the State of Texas and is subject to and complies with the applicable provisions of the Texas Tort Claims Act, as set out in the Civil Practice and Remedies Code, Section 101.001, et. seq., and the remedies authorized therein regarding claims or causes of action that may be asserted by third parties for accident, injury, or death.

Please do not hesitate to contact me should you have any questions or require any additional information.

Sincerely,

Kim Isaacs

Kim Isaacs
Risk & Benefits Manager

Deb Syphrett-Clark

From: green@soutex.net
Sent: Wednesday, March 02, 2022 2:06 PM
To: 'Deb Syphrett-Clark'
Subject: RE: Jefferson County/ 3455 Sarah Street, Beaumont

The Quote for 3455 Sarah Drive, Beaumont for a Full Survey, tie all improvements & encroachments Est cost @2200.00 + Tax EST 2-4weeks.

Kindly,
 Stacy Green

Office Clerk



3737 Doctors Drive
 Port Arthur, TX 77642
 Phone: (409)983-2004
 Fax: (409)983-2005
green@soutex.net

From: Deb Syphrett-Clark <dclark@co.jefferson.tx.us>
Sent: Wednesday, March 2, 2022 11:31 AM
To: green@soutex.net
Subject: Jefferson County

Description of property behind the Melton Y to be surveyed.

Thank you,

Deb

Deborah L. Clark

Purchasing Agent
 Jefferson County

409-835-8599 Office
 409-728-1188 Cell
 409-835-8456 Fax

dclark@co.jefferson.tx.us

MEMORANDUM

TO: COMMISSIONERS COURT
FROM: FRAN LEE
SUBJECT: BUDGET TRANSFER
DATE: MARCH 1, 2022

The following budget transfer for County Judge is necessary for replacement of two computers.

120-1015-413-6002	Capital – Computer	
	Equipment	\$3,402
120-1015-413-5029	Attorney Fees	\$3,402

From: Dell (please do not reply) on behalf of Dell Inc.
To: aserrant@co.jefferson.tx.us
Subject: Dell Computer - Saved Quote Information -3000112094369
Date: Wednesday, February 16, 2022 8:32:55 AM



You have saved an eQuote 3000112094369

An eQuote is now saved in your Dell Online Store.
 This will be held for 60 days and will expire on 04/17/2022

Your eQuote has been sent to:

Emailed to: aserrant@co.jefferson.tx.us
 aserrant@co.jefferson.tx.us

To retrieve this eQuote

Login to [Premier](#)
 Sign in to Jefferson County
 Click on "Quotes" in the top menu bar and search for eQuote number 3000112094369

eQuote Name	Melissa - 7240
Saved By	aserrant@co.jefferson.tx.us
eQuote Description	
Authorized Buyer	
Notes/Comments	
Account Name	Jefferson County
Contract Code	C000000006841
Contract Name	Texas Department of Information Resources (TX DIR)
Customer Agreement #	TX DIR-TSO-3763

Shipping Info

Amy Serrant
 1149 Pearl St. 6th Floor
 Beaumont, TX 77701
 (409) 835-8447

Billing Info

ACCOUNTS PAYABLE
 1149 PEARL ST
 7TH FL
 BEAUMONT, TX 77701-3635

eQuote Summary

Description	Quantity	Unit Price	Subtotal
OptiPlex 5090 Small Form Factor	2	\$789.52	\$1,579.04
Dell 24 Monitor - P2422H, 60.5cm (23.8")	2	\$240.49	\$480.98
CUS,SPKR,5V,ZLX,AC511M,WW	2	\$30.00	\$60.00

Non Taxable Amount	\$2,120.02
eQuote Subtotal	\$2,120.02
Shipping*	\$0.00
Shipping Discount*	\$0.00
Tax*	\$0.00
Environmental Disposal Fee*	\$0.00

eQuote Total* **\$2,120.02**

*The eQuote total, including applicable taxes and additional fees, may be viewable online.

Note: Your order may contain one or more items which are billed on a recurring basis. See Important Notes for details on your specific offering and, for customers with auto-renewing subscriptions, how to turn off automatic renewal.

eQuote Details

Description	Quantity	Price
rrcr1288351-6294791 OptiPlex 5090 Small Form Factor	2	\$3,284.00
Premier Discount		\$1,704.96

(Unit Price after discount: \$789.52 ea.) **\$1,579.04**

Module	Description	Product Code	SKU	ID
OptiPlex 5090 Small Form Factor	OptiPlex 5090 Small Form Factor XCTO	GRHF5GM	[210-AYSC]	1
Processor	10th Generation Intel® Core™ i5-10500 (12MB cache, 6 cores, 12 threads, 3.10 to 4.50 GHz Turbo, 65W)	GNIT621	[338-BVCB]	146
Operating System	Windows 10 Pro, English, French, Spanish	GF48XA1	[619-AHKN]	11
Microsoft Application Software	No Microsoft Office License Included-30 day Trial Offer Only	GC7OFJV	[658-BCSB]	1002
Dell Endpoint Security	VMware Carbon Black Cloud Endpoint Standard NGAV, B-EDR, w/Dell ProSupport 3 Year	G59W0IY	[528-CHEB]	593
Memory	8 GB, 1 x 8 GB, DDR4	GA61EWF	[370-AGFP]	3
Hard Drive	256 GB, M.2 2230, PCIe NVMe, SSD, Class 35	G1GTVU5	[400-BEUW] [773-BBBC] [412-AAQT]	8
Additional Hard Drive	No Additional Hard Drive	G780XKR	[401-AANH]	637
Video Card	Intel® Graphics	GZQDA24	[490-BBFG]	6

Chassis Options	OptiPlex 5090 Small Form Factor with 200W up to 85% efficient Power Supply (80Plus Bronze), DAO, BCC	GA203GP	[329-BFHS]	116
Power Cord	System Power Cord (US)	GA5894N	[450-AAOJ]	20
Optical Drive	8x DVD+-RW 9.5mm ODD	GZY3O28	[429-ABFH] [325-BDSH]	16
Optical Software	Cyberlink Media Suite Essentials for Windows 10 and DVD drive (without Media)	GWNM30Y	[658-BBTV]	597
Additional Storage Devices - Media Reader	No Media Card Reader Selected	GW2K1D6	[379-BBHM]	10
Wireless	No Wireless LAN Card (no WiFi enablement)	GE7Y41P	[555-BBFO]	19
Wireless Driver	No Wireless Driver (No WiFi enablement)	GQMKF4C	[340-AFMQ]	7
Chassis Intrusion Switch	Chassis Intrusion Switch - SFF	GA6RJ41	[461-AAEE]	289
Stands and Mounts	No Stand Option	GJ05ZSE	[575-BBBI]	558
Adapter	No Additional Cable	GIX0L8M	[379-BBCY]	592
Serial Port Adapter	No Parallel or Serial Port	GVEYOQ7	[492-BBFF]	698
Add-in Cards	No Additional Add In Cards	GNV4J7Q	[382-BBHX]	583
Additional Video Ports	No Additional Video Ports	GWFXAL0	[492-BCKH]	495
Keyboard	Dell Pro Wireless Keyboard and Mouse - KM5221W - English - Black	GX0V4JP	[580-AJGJ]	4
Mouse	Mouse included with Keyboard	GU54MYP	[570-AADI]	12
Back Cover	No Cable Cover	GDT2C7Z	[325-BCZQ]	376
External Speakers	No External Speaker	GTNM7E2	[817-BBBC]	200095
Software Stack	Dell Applications Windows 10 & 11 DGR with Dell Optimizer	GIG5KLR	[658-BBMR] [640-BBLW] [525-BBCL] [658-BBRB] [658-BEOK] [658-BEQP] [658-BFDQ]	1003
Operating System Recovery Options	OS-Windows Media Not Included	GLA9OQ1	[620-AALW]	200013
ENERGY STAR	ENERGY STAR Qualified	G6J34SM	[387-BBLW]	122
Documentation	Safety/Environment and Regulatory Guide (English/French Multi-language)	G7RB0GY	[340-AGIK]	21
System Monitoring Options	Dell Watchdog Timer	G4B5QX3	[379-BEKK]	39
Placemat	Quick Setup Guide 5090 SFF	GEW6JOK	[340-CVFR]	60
Order Information	US No Canada Ship Charge	G3IA0L8	[332-1286]	111
EAN/UPC Labels	No UPC Label	G8WGTYN	[389-BCGW]	292
Bios for TPM	Trusted Platform Module (Discrete TPM Enabled)	GJMDKT6	[329-BBJL]	297
Shipping Material	Shipping Material for SFF	GDKRO4V	[340-CQYR] [389-BBUU]	465
Label	MOD,LBL,REG,SFF,JSD2,200,5090[1]	GFU7P0W	[389-DZDJ]	676
Hard Drive Cables and Brackets	M.2 Caddy	GGPQ1ML	[575-BBKX]	705
Processor Label	Intel® Core™ i5 Processor Label	GES6Q9A	[340-CNBZ]	749
Transportation from ODM to region	Standard shipment	GQT8IGC	[800-BBIO]	200080
Protect Your New PC	No Anti-Virus Software	GD4K19S	[650-AAAM]	1014
FGA Module	No FGA	NOFGA	[817-BBBB]	572
Speakers	Speaker for Tower and SFF	GR068XC	[520-AARD]	18
Windows AutoPilot	No AutoPilot	GYES02AP	[340-CKSZ]	291
EPEAT 2018	EPEAT 2018 Registered (Silver)	GTZOE2H	[379-BDIO]	200331
Systems Management	No Out-of-Band Systems Management	GAJK4ZT	[631-ACXZ]	49
Additional	CFI Routing SKU	9292306	[365-0257]	701

System Options				
Additional System Options	Configuration Services - Custom, Image Load	9292307	[366-0330]	701
Additional System Options	CFI,Information,DESC,Factory Install	9292308	[378-2295]	701
Hardware Support Services	3 Years Hardware Service with Onsite/In-Home Service After Remote Diagnosis	NBD3	[804-9043] [804-9044]	29
Shipping Box Labels - Standard	System Box Label	SYSBOX	[365-0538]	200423

rrcr1288351-6413116 | Dell 24 Monitor - P2422H, 60.5cm (23.8") **2** **\$739.98**

Premier Discount **\$259.00**

(Unit Price after discount: \$240.49 ea.) **\$480.98**

Module	Description	Product Code	Sku	ID
Dell 24 Monitor - P2422H, 60.5cm (23.8")	Dell 24 Monitor - P2422H, 60.5cm (23.8")	GRVIA79	[210-BBCC]	1
Hardware Support Services	3 Years Advanced Exchange Service	G2V0K68	[814-5380] [814-5381]	29

CUS,SPKR,5V,ZLX,AC511M,WW **2** **\$89.98**
Sku [520-AAOT]

Premier Discount **\$29.98**

(Unit Price after discount: \$30.00 ea.) **\$60.00**

Non Taxable Amount	\$2,120.02
eQuote Subtotal	\$2,120.02
Shipping*	\$0.00
Shipping Discount*	\$0.00
Tax*	\$0.00
Environmental Disposal Fee*	\$0.00

eQuote Total* **\$2,120.02**

*The eQuote total, including applicable taxes and additional fees, may be viewable online.

Let's connect.



Legal Disclaimer: Please note that Dell cannot be responsible for pricing or other errors and reserves the right to cancel any orders arising from such errors. The amount of tax and shipping added to your order depends on where you have asked for the product to be shipped as well as on which products and/or services you've chosen to purchase. Your order is subject to Dell's Terms and Conditions of Sale which include a binding arbitration provision.

Subscription Customers: If your order includes a recurring billing subscription, you authorize Dell to charge your payment method on file on a recurring basis. You may opt out of automatic renewal or update payment information at any time through the web portal used to manage your subscription. Offer specific subscription terms for details ([Commercial](#); [Consumer](#)).

Privacy Policy | Terms and Conditions | [Dell.com](#)
© Dell Inc. U.S. only. Dell Inc. is located at One Dell Way, Mail Stop 8129, Round Rock, TX 78682

SOLD-TO PARTY 10260661

JEFFERSON COUNTY
1149 PEARL ST
BEAUMONT TX 77701-3638

SHIP-TO

JEFFERSON COUNTY
1149 PEARL ST
BEAUMONT TX 77701-3638

We deliver according to the following terms:

Payment Terms : Net 30 days
Ship Via : Electronic Delivery
Terms of Delivery: : FOB ORIGIN
Currency : USD

Quotation

Quotation Number : 224702828
Document Date : 18-FEB-2022
PO Number :
PO Release :
Sales Rep : George Marshall
Email : GEORGE.MARSHALL@INSIGHT.COM
Telephone :
Sales Rep 2 : Mizpah Concepcion
Email : MIZPAH.CONCEPCION@INSIGHT.COM
Telephone : +12132693916

Material	Material Description	Quantity	Unit Price	Extended Price
65310735AF01A00	Adobe Acrobat Pro 2020 - license - 1 user - STATE OF TEXAS DIR ADOBE VALUE ADDED SOFTWARE RESELLER(# DIR-TSO-4052) MSRP: 396.00 Discount: 11.551%	2	350.26	700.52
Product Subtotal				700.52
TAX				0.00
Total				700.52

Lease & Financing options available from Insight Global Finance for your equipment & software acquisitions. Contact your Insight account executive for a quote.

Thank you for choosing Insight. Please contact us with any questions or for additional information about Insight's complete IT solution offering.

Sincerely,

George Marshall

GEORGE.MARSHALL@INSIGHT.COM

Mizpah Concepcion
+12132693916

MIZPAH.CONCEPCION@INSIGHT.COM

Insight Global Finance has a wide variety of flexible financing options and technology refresh solutions. Contact your Insight representative for an innovative approach to maximizing your technology and developing a strategy to manage your financial options.

Hi,

Below is the quote for the products you have requested. Please send all new requests to southtexasgov@shi.com.

If you have any questions regarding this quote, feel free to contact me at Jeff_Rosen@SHI.com.

Regards,
Jeff



Pricing Proposal

Quotation #:	21631391
Description:	Microsoft Select Plus - Microsoft Office Standard(8)
Created On:	Feb-17-2022
Valid Until:	Feb-28-2022

County of JEFFERSON

Amy Serrant

1149 Pearl Street
Beaumont, TX 77701-3638
United States
Phone: 409-835-8447
Fax:
Email: aserrant@co.jefferson.tx.us

Senior Inside Account Manager

Jeff Rosen

3828 Pecana Trail
Austin, TX 78749
Phone: 800-870-6079 ext 8686150
Fax: (512)732-0232
Email: Jeff_Rosen@shi.com

[Click here to order this quote](#)

All Prices are in US Dollar(USD)

Product	Qty	Your Price	Total
1 Office Std 2021 Sngl LTSC Microsoft - Part#: 021-10695 Contract Name: Microsoft Software VAR Contract #: DIR-TSO-4092	2	\$290.60	\$581.20
Subtotal			\$581.20
Shipping			\$0.00
Total			\$581.20

Additional Comments

Please note, if Emergency Connectivity Funds (ECF) will be used to pay for all or part of this quote, please let us know as we will need to ensure compliance with the funding program.

Hardware items on this quote may be updated to reflect changes due to industry wide constraints and fluctuations.

The products offered under this proposal are resold in accordance with the terms and conditions of the Contract referenced under that applicable line item.

Exhibit A

Project Description

Revised March 8, 2022

The Project will include the following:

1. Installation of two (2) 200 kW diesel generators with belly tanks.
2. Installation of one new automatic transfer switch and electrical distribution including a motor control center, stepdown transformer(s) and panelboards.
3. Installation of a fuel line from existing elevated day tanks to a location inside the generator building to allow for manual refilling of the generator belly tanks.
4. Installation of a new station Motor Control Center with new soft starters for the existing electrical pumps.
5. Provide design (Plans and Specifications) for a new cast in place concrete generator building and foundation designed for Category 5 hurricane force winds and impact. The new generator building will be built adjacent to the existing pump station building allowing entrance into the new building from the existing pedestrian door. New building will have an opening sized to allow each generator to be removed with forklift or similar equipment.
6. Provide new feeders and conduit/cabling for the new generator, switchgear and automatic transfer switch.
7. Provide new feeders and conduit/cabling for new building including lighting and ventilation
8. Provide engine ventilation and exhaust systems in the generator building. The new building will not have heat or plumbing.
9. File applications with the local fire marshal for a new building.
10. Coordinate with the local electrical utility company for reconnection to the existing electric utilities.

PGM: GMCOMMV2	DATE		PAGE: 1
NAME	03-08-2022	AMOUNT	CHECK NO. TOTAL
JURY FUND			
DAWN DONUTS		111.00	492960
CHAPMAN VENDING		504.69	492997
			615.69**
ROAD & BRIDGE PCT.#1			
SPIDLE & SPIDLE		394.00	492786
GULF COAST SCREW & SUPPLY		54.25	492813
M&D SUPPLY		18.93	492822
MUNRO'S		31.35	492827
SCOOTER'S LAWNMOWERS		293.71	492843
SOUTHERN TIRE MART, LLC		403.27	492865
HOUSTON FREIGHTLINER INC	212,	588.00	492943
ADVANCE AUTO PARTS		424.89	492946
MARTIN MARIETTA MATERIALS		786.40	492959
			214,994.80**
ROAD & BRIDGE PCT.#2			
ENTERGY		147.75	492815
TIME WARNER COMMUNICATIONS		142.49	492857
			290.24**
ROAD & BRIDGE PCT. # 3			
RALPH'S INDUSTRIAL ELECTRONICS		193.17	492839
AT&T		77.36	492850
WEAVER, FALGOUT, & CARRUTH, INC.		116.47	492863
SOUTHERN TIRE MART, LLC		32.50	492865
			419.50**
ROAD & BRIDGE PCT.#4			
AYRES MFG. CO.		99.85	492791
ENTERGY	1,	597.32	492815
CASH ADVANCE ACCOUNT		532.65	492819
M&D SUPPLY		113.81	492822
MUNRO'S		97.72	492827
OFFICE DEPOT		170.99	492830
PORT ARTHUR NEWS, INC.		87.00	492835
TRANTEX, INC.	2,	138.00	492871
HLAVINKA EQUIPMENT COMPANY		653.88	492921
ON TIME TIRE		90.00	492941
O'REILLY AUTO PARTS		18.99	492977
GULF COAST		325.80	492985
			5,926.01**
ENGINEERING FUND			
OFFICE DEPOT		971.33	492830
UNITED STATES POSTAL SERVICE		2.76	492893
			974.09**
PARKS & RECREATION			
ENTERGY		338.77	492815
RITTER @ HOME		176.06	492838
RALPH'S INDUSTRIAL ELECTRONICS		170.19	492839
			685.02**
GENERAL FUND			
JEFFERSON CTY CHILD WELFARE BOARD		8,116.26	492925
			8,116.26*
TAX OFFICE			
OFFICE DEPOT		83.84	492830
CDW COMPUTER CENTERS, INC.		97.56	492870
UNITED STATES POSTAL SERVICE		521.24	492893
UNITED STATES POSTAL SERVICE		25.69	492894
			728.33*
COUNTY HUMAN RESOURCES			
UNITED STATES POSTAL SERVICE		7.32	492893
			7.32*
AUDITOR'S OFFICE			

PGM: GMCOMMV2	DATE 03-08-2022		PAGE: 2 858
NAME	AMOUNT	CHECK NO.	TOTAL
OFFICE DEPOT	402.25	492830	
SOUTHEAST TEXAS WATER	34.95	492848	
UNITED STATES POSTAL SERVICE	2.12	492893	439.32*
COUNTY CLERK			
DELL MARKETING L.P.	1,226.01	492804	
UNITED STATES POSTAL SERVICE	187.14	492893	
UNITED STATES POSTAL SERVICE	41.91	492894	
FUNCTION 4 LLC	785.22	492968	2,240.28*
COUNTY JUDGE			
JOHN E MACEY ATTORNEY AT LAW PLLC	500.00	492823	
OFFICE DEPOT	132.20	492830	
LINDA F PATTERSON	1,440.00	492832	
ANITA F. PROVO	500.00	492836	
GERMER PLLC	500.00	492872	
UNITED STATES POSTAL SERVICE	6.81	492893	
KATY LEIGH CORCORAN	500.00	492928	
BRITTANIE HOLMES	500.00	492944	
WILLIAM FORD DISHMAN	500.00	492951	4,579.01*
RISK MANAGEMENT			
UNITED STATES POSTAL SERVICE	.46	492893	.46*
COUNTY TREASURER			
TAC - TEXAS ASSN. OF COUNTIES	450.00	492852	
UNITED STATES POSTAL SERVICE	99.12	492893	549.12*
PRINTING DEPARTMENT			
CINTAS CORPORATION	47.90	492962	
FUNCTION 4 LLC	180.00	492968	
LINDENMEYR MUNROE	968.20	492993	
BOSWORTH PAPERS	604.40	492994	1,800.50*
PURCHASING DEPARTMENT			
UNITED STATES POSTAL SERVICE	3.12	492893	3.12*
GENERAL SERVICES			
B&L MAIL PRESORT SERVICE	1,719.03	492792	
CASH ADVANCE ACCOUNT	30.00	492819	
ADVANCED STAFFING	97.50	492866	
CROWN CASTLE INTERNATIONAL	1,688.17	492907	
BOSWORTH PAPERS	11,078.00	492994	
CHAPMAN VENDING	342.18	492997	14,954.88*
DATA PROCESSING			
DELL MARKETING L.P.	7,925.00	492804	7,925.00*
VOTERS REGISTRATION DEPT			
UNITED STATES POSTAL SERVICE	396.94	492893	396.94*
ELECTIONS DEPARTMENT			
UNITED STATES POSTAL SERVICE	295.60	492893	295.60*
DISTRICT ATTORNEY			
CASH ADVANCE ACCOUNT	60.00	492819	
KIRKSEY'S SPRINT PRINTING	21.80	492821	
NELL MCCALLUM & ASSOC., INC.	216.45	492824	
OFFICE DEPOT	423.17	492830	
TDCAA BOOK ORDERS	212.00	492854	
TEXAS DISTRICT & COUNTY ATTY ASSN.	1,050.00	492860	
UNITED STATES POSTAL SERVICE	91.31	492893	2,074.73*
DISTRICT CLERK			

PGM: GMCOMMV2	DATE 03-08-2022		PAGE: 3 859
NAME	AMOUNT	CHECK NO.	TOTAL
OFFICE DEPOT	240.60	492830	
CDW COMPUTER CENTERS, INC.	1,564.66	492870	
UNITED STATES POSTAL SERVICE	292.94	492893	2,098.20*
CRIMINAL DISTRICT COURT			
DAVID GROVE	8,750.00	492787	
DONALD W. DUESLER & ASSOC.	8,750.00	492805	
MARSHA NORMAND	8,750.00	492828	
KEVIN PAULA SEKALY PC	8,750.00	492844	
KEVIN S. LAINE	800.00	492867	
UNITED STATES POSTAL SERVICE	7.53	492893	
LANGSTON ADAMS	900.00	492903	
SCOTT RENICK	900.00	492924	
ALEX BILL III	800.00	492938	
MATUSKA LAW FIRM	4,418.75	492953	42,826.28*
58TH DISTRICT COURT			
THOMSON REUTERS-WEST	114.00	492949	114.00*
60TH DISTRICT COURT			
CDW COMPUTER CENTERS, INC.	52.08	492870	
SIERRA SPRING WATER CO. - BT	61.85	492896	113.93*
136TH DISTRICT COURT			
UNITED STATES POSTAL SERVICE	1.76	492893	1.76*
252ND DISTRICT COURT			
DOUGLAS M. BARLOW, ATTORNEY AT LAW	1,806.25	492793	
NATHAN REYNOLDS, JR.	800.00	492837	
TEXAS CENTER FOR JUDICIARY	75.00	492859	
UNITED STATES POSTAL SERVICE	30.12	492893	
LANGSTON ADAMS	900.00	492903	
THOMSON REUTERS-WEST	251.46	492949	3,862.83*
279TH DISTRICT COURT			
PHILLIP DOWDEN	605.00	492790	
UNITED STATES POSTAL SERVICE	.53	492893	
JOEL WEBB VAZQUEZ	110.00	492911	
TONYA CONNELL TOUPS	1,050.00	492923	
REAUD MORGAN & QUINN LLP	385.00	492926	
JONATHAN L. STOVALL	440.00	492937	
MATUSKA LAW FIRM	350.00	492953	2,940.53*
317TH DISTRICT COURT			
ALISA RAUMAKER, CSR	381.30	492789	
TRACEY D. BURK	3,013.80	492797	
ANITA F. PROVO	400.00	492836	
CHARLES ROJAS	300.00	492874	
GLEN M. CROCKER	600.00	492899	
JOEL WEBB VAZQUEZ	150.00	492911	
KIMBERLY PHELAN, P.C.	650.00	492916	
BRITTANIE HOLMES	300.00	492944	
WILLIAM FORD DISHMAN	400.00	492951	6,195.10*
JUSTICE COURT-PCT 1 PL 1			
UNITED STATES POSTAL SERVICE	17.26	492893	17.26*
JUSTICE COURT-PCT 1 PL 2			
UNITED STATES POSTAL SERVICE	16.75	492893	16.75*
JUSTICE COURT-PCT 2			
CASH ADVANCE ACCOUNT	658.84	492819	658.84*
JUSTICE COURT-PCT 6			

PGM: GMCOMMV2	DATE 03-08-2022		PAGE: 4
NAME	AMOUNT	CHECK NO.	TOTAL 860
UNITED STATES POSTAL SERVICE	33.65	492893	33.65*
JUSTICE COURT-PCT 7			
AT&T	34.21	492850	34.21*
JUSTICE OF PEACE PCT. 8			
UNITED STATES POSTAL SERVICE	145.96	492894	145.96*
COUNTY COURT AT LAW NO.1			
UNITED STATES POSTAL SERVICE	5.99	492893	5.99*
COUNTY COURT AT LAW NO. 2			
DONALD BOUDREAUX	250.00	492795	
THOMAS J. BURBANK PC	300.00	492796	
JOHN E MACEY ATTORNEY AT LAW PLLC	250.00	492823	
OFFICE DEPOT	18.39	492830	
UNITED STATES POSTAL SERVICE	12.91	492893	
LANGSTON ADAMS	250.00	492903	
JOEL WEBB VAZQUEZ	250.00	492911	
LAURIE PEROZZO	250.00	492930	
WILLIAM MARCUS WILKERSON	250.00	492945	
MATUSKA LAW FIRM	400.00	492953	2,231.30*
COUNTY COURT AT LAW NO. 3			
DONALD BOUDREAUX	250.00	492795	
EDWARD B. GRIPON, M.D., P.A.	595.00	492812	
OFFICE DEPOT	160.19	492830	
JOHN D WEST	250.00	492876	
UNITED STATES POSTAL SERVICE	10.34	492893	
MATUSKA LAW FIRM	900.00	492953	
THE SAMUEL FIRM, PLLC	425.00	492981	
LAW OFFICE OF GILES R COLE & ASSOC	400.00	492996	2,990.53*
COURT MASTER			
KENT W JOHNS	1,000.00	492939	
BUDDIE J HAHN	1,253.96	492987	2,253.96*
MEDIATION CENTER			
TRIANGLE BLUE PRINT CO., INC.	24.00	492862	
UNITED STATES POSTAL SERVICE	1.38	492893	
KARA HAWTHORN	418.98	492940	444.36*
SHERIFF'S DEPARTMENT			
CITY OF NEDERLAND	30.93	492801	
EQUINE MEDICINE & SURGERY	441.00	492807	
FED EX	161.29	492808	
GT DISTRIBUTORS, INC.	3,223.57	492810	
OFFICE DEPOT	1,021.48	492830	
AT&T	321.24	492850	
CDW COMPUTER CENTERS, INC.	131.71	492870	
UNITED STATES POSTAL SERVICE	1,140.56	492893	
BEAUMONT OCCUPATIONAL SERVICE, INC.	244.65	492900	
GALLS LLC	311.00	492957	
3L PRINTING COMPANY	25.00	492961	
IAFCI	80.00	492967	
THE MONOGRAM SHOP	183.50	492970	
SUPERION LLC	4,757.76	492986	12,073.69*
CRIME LABORATORY			
AGILENT TECHNOLOGIES	34.46	492788	
OFFICE DEPOT	219.17	492830	
SWAFS	180.00	492840	
VERIZON WIRELESS	37.99	492888	
AFQAM	75.00	492906	

PGM: GMCOMMV2	DATE 03-08-2022	PAGE: 5
NAME	AMOUNT	CHECK NO.
JUSTICE TRAX INC	2,500.00	492920
CAYMAN CHEMICAL COMPANY	64.00	492932
AIRGAS USA, LLC	200.50	492978
JAIL - NO. 2		3,311.12*
MARK'S PLUMBING PARTS	311.72	492781
BELL FENCE MFG. CO.	112.75	492794
COBURN SUPPLY COMPANY INC	322.57	492802
JACK BROOKS REGIONAL AIRPORT	2,828.70	492818
KIRKSEY'S SPRINT PRINTING	24.95	492821
M&D SUPPLY	134.98	492822
MCNEILL INSURANCE AGENCY	71.00	492826
OFFICE DEPOT	1,012.93	492830
SHERWIN-WILLIAMS	1,668.74	492847
AT&T	1,027.85	492850
LOWE'S HOME CENTERS, INC.	164.65	492902
INTERCONTINENTAL JET CORP	1,769.52	492913
MARK ELLIS	10.56	492919
ALLIED ELECTRICAL SYSTEMS&SOLUTIONS	3,499.42	492927
WORLD FUEL SERVICES	4,791.44	492931
CONSTELLATION NEWENERGY - GAS DIVIS	3,129.72	492947
MATERA PAPER COMPANY INC	8,634.09	492948
THOMSON REUTERS-WEST	1,110.23	492949
24 HR SAFETY LLC	35.00	492954
GALLS LLC	1,694.20	492957
CORRHEALTH LLC	382,992.66	492973
MOORE-ALL TEX SUPPLY	24.00	492975
TRINITY SERVICES GROUP INC	25,249.57	492984
JUVENILE PROBATION DEPT.		440,621.25*
LARONDA TURNER	159.12	492831
CHERYL TARVER	23.40	492864
UNITED STATES POSTAL SERVICE	5.91	492893
LYNN BIERHALTER	93.60	492918
TANISHA GRIFFIN	231.37	492956
ROXANA MITCHELL	329.36	492958
EDWIN JAY FRANK	352.76	492974
TRISH DAVIS	200.07	492979
BRENDA WOOD	105.30	492992
JUVENILE DETENTION HOME		1,500.89*
CHRISTUS HOSPITAL	9,583.84	492901
CLEAN HARBORS ENVIRONMENTAL SERVICE	40.78	492905
FLOWERS FOODS	43.15	492908
BEN E KEITH FOODS	4,637.80	492909
ADVANTAGE INTERESTS INC	586.50	492971
CONSTABLE PCT 1		14,892.07*
GT DISTRIBUTORS, INC.	491.81	492810
OFFICE DEPOT	181.36	492830
TAC - TEXAS ASSN. OF COUNTIES	165.00	492853
UNITED STATES POSTAL SERVICE	38.84	492893
THE PRODUCTIVITY CENTER	330.00	492897
GALLS LLC	875.00	492957
TND WORKWEAR CO LLC	235.80	492969
COTTON CARGO	232.00	492983
CONSTABLE-PCT 2		2,549.81*
TAC - TEXAS ASSN. OF COUNTIES	230.00	492851
CONSTABLE-PCT 6		230.00*
UNITED STATES POSTAL SERVICE	5.07	492893
TND WORKWEAR CO LLC	350.85	492969
COUNTY MORGUE		355.92*
PROCTOR'S MORTUARY INC	13,543.75	492933
AGRICULTURE EXTENSION SVC		13,543.75*

PGM: GMCOMMV2	DATE 03-08-2022	PAGE: 6
NAME	AMOUNT	CHECK NO.
		TOTAL
CORENA N FITZGERALD	66.40	492982
HEALTH AND WELFARE NO. 1		66.40*
CALVARY MORTUARY	1,500.00	492798
OFFICE DEPOT	641.75	492830
MCKESSON MEDICAL-SURGICAL INC	58.79	492873
CLAYBAR HAVEN OF REST	1,040.00	492890
UNITED STATES POSTAL SERVICE	55.13	492893
CLEAN HARBORS ENVIRONMENTAL SERVICE	40.78	492905
PROCTOR'S MORTUARY INC	1,500.00	492934
CRYSTAL LETMAN-JENKINS	95.12	492955
CANDICE FORD	78.98	492964
HEALTH AND WELFARE NO. 2		5,010.55*
NSO - NURSES SERVICE ORGANIZATION	111.00	492782
FRANK'S MEDICAL MART	93.60	492809
ENTERGY	70.00	492816
OFFICE DEPOT	424.31	492830
PETTY CASH - S C WELFARE	283.75	492833
AT&T	34.21	492850
MCKESSON MEDICAL-SURGICAL INC	421.57	492873
CLAYBAR HAVEN OF REST	1,040.00	492891
UNITED STATES POSTAL SERVICE	284.64	492894
CLEAN HARBORS ENVIRONMENTAL SERVICE	40.78	492905
NURSE PRACTITIONER		2,803.86*
OFFICE DEPOT	407.10	492830
MCKESSON MEDICAL-SURGICAL INC	882.29	492873
CLEAN HARBORS ENVIRONMENTAL SERVICE	82.82	492905
ENVIRONMENTAL CONTROL		1,372.21*
OFFICE DEPOT	66.26	492830
AT&T	34.21	492850
INDIGENT MEDICAL SERVICES		100.47*
CARDINAL HEALTH 110 INC	36,804.04	492950
MAINTENANCE-BEAUMONT		36,804.04*
CITY OF BEAUMONT - WATER DEPT.	124.43	492799
ECOLAB	212.47	492806
ENTERGY	36,165.52	492815
MCCOWN PAINT & SUPPLY OF TEXAS	363.91	492825
SANITARY SUPPLY, INC.	1,578.48	492842
ACE IMAGEWEAR	235.96	492846
SOUTHWEST BUILDING SYSTEMS	470.60	492849
AT&T	240.62	492850
TIME WARNER COMMUNICATIONS	174.86	492856
INTERSTATE ALL BATTERY CENTER - BMT	299.94	492929
ADVANTAGE INTERESTS INC	423.00	492971
WES VICE HARDWOODS & SUPPLY INC	1,090.85	492990
MAINTENANCE-PORT ARTHUR		41,380.64*
ELECTRICAL SPECIALTIES, INC.	1,317.50	492784
CITY OF PORT ARTHUR - WATER DEPT.	681.34	492800
COBURN SUPPLY COMPANY INC	157.30	492802
AT&T	1,454.18	492850
HOWARD'S AUTO SUPPLY	70.20	492868
PETE & HAROLD'S AUTO CLINIC, INC.	7.00	492895
TEXAS GAS SERVICE	939.19	492904
PARKER LUMBER	15.16	492935
MAINTENANCE-MID COUNTY		4,641.87*
CITY OF NEDERLAND	71.39	492801
ENTERGY	383.59	492815
SERVICE CENTER		454.98*

PGM: GMCOMMV2	DATE	PAGE: 7	
	03-08-2022	863	
NAME	AMOUNT	CHECK NO.	TOTAL
A-1 TINT & ACCESSORIES	424.95	492783	
ACTION AUTO GLASS	39.95	492785	
SPIDLE & SPIDLE	3,532.12	492786	
J.K. CHEVROLET CO.	312.41	492817	
KINSEL FORD, INC.	2,240.50	492820	
MUNRO'S	259.56	492827	
OFFICE DEPOT	89.63	492830	
PHILPOTT MOTORS, INC.	204.35	492834	
FASTENAL	153.82	492869	
JEFFERSON CTY. TAX OFFICE	7.50	492877	
JEFFERSON CTY. TAX OFFICE	16.75	492878	
JEFFERSON CTY. TAX OFFICE	7.50	492879	
JEFFERSON CTY. TAX OFFICE	7.50	492880	
JEFFERSON CTY. TAX OFFICE	7.50	492881	
JEFFERSON CTY. TAX OFFICE	7.50	492882	
JEFFERSON CTY. TAX OFFICE	7.50	492883	
JEFFERSON CTY. TAX OFFICE	7.50	492884	
JEFFERSON CTY. TAX OFFICE	22.00	492885	
JEFFERSON CTY. TAX OFFICE	7.50	492886	
JEFFERSON CTY. TAX OFFICE	7.50	492887	
PETROLEUM SOLUTIONS, INC.	266.50	492910	
BUMPER TO BUMPER	219.04	492912	
AIRPORT GULF TOWING LLC	125.00	492917	
PRO CHEM INC	97.83	492942	
ADVANCE AUTO PARTS	6,064.41	492946	
DENNIS LOWE	129.95	492963	
MIDNIGHT AUTO	225.00	492966	
THIS GUYS TOOLS, LLC	85.00	492980	
TWIN CITY HONDA	15.90	492995	
XL PARTS	218.45	492998	
			14,810.62*
VETERANS SERVICE			
UNITED STATES POSTAL SERVICE	20.92	492893	
SONIA ABRAHAM	19.63	492989	
			40.55*
			707,661.00**
MOSQUITO CONTROL FUND			
MUNRO'S	71.94	492827	
AERO PERFORMANCE	2,306.78	492952	
O'REILLY AUTO PARTS	23.74	492977	
AIRGAS USA, LLC	43.32	492978	
			2,445.78**
EMPG GRANT			
ROBERT GRIMM	610.00	492976	
			610.00**
COMMUNITY SUPERVISION FND			
OFFICE DEPOT	582.37	492830	
SAM HOUSTON STATE UNIVERSITY	550.00	492841	
TEXAS PROBATION ASSOCIATION	1,050.00	492858	
UNITED STATES POSTAL SERVICE	50.24	492893	
UNITED STATES POSTAL SERVICE	115.28	492894	
CLEAN HARBORS ENVIRONMENTAL SERVICE	207.70	492905	
JCCSC	132.00	492936	
			2,687.59**
JEFF. CO. WOMEN'S CENTER			
CITY OF BEAUMONT - WATER DEPT.	225.42	492799	
TEXAS FIRE & COMMUNICATIONS	30.00	492875	
			255.42**
COMMUNITY CORRECTIONS PRG			
TEXAS PROBATION ASSOCIATION	175.00	492858	
			175.00**
DRUG DIVERSION PROGRAM			
SAM HOUSTON STATE UNIVERSITY	275.00	492841	
			275.00**
COUNTY CLERK - RECORD MGT			

PGM: GMCOMMV2	DATE	PAGE: 8
NAME	03-08-2022	864
	AMOUNT	CHECK NO. TOTAL
MANATRON	11,584.24	492922 11,584.24**
COUNTY RECORDS MANAGEMENT		
TEXAS HISTORICAL FOUNDATION	50.00	492861
UNITED STATES POSTAL SERVICE	1.38	492893 51.38**
HOTEL OCCUPANCY TAX FUND		
TIME WARNER COMMUNICATIONS	130.63	492855
THE BEAUMONT PANTHERS, LLC	25,000.00	492999 25,130.63**
AIRPORT FUND		
CITY OF NEDERLAND	387.56	492801 387.56**
SE TX EMP. BENEFIT POOL		
EXPRESS SCRIPTS INC	212,792.34	492972
UNITED HEALTHCARE SERVICES INC	113,114.92	492988 325,907.26**
LIABILITY CLAIMS ACCOUNT		
TRISTAR RISK MANAGEMENT	236.34	492915 236.34**
WORKER'S COMPENSATION FD		
TRISTAR RISK MANAGEMENT	4,302.96	492914 4,302.96**
SHERIFF'S FORFEITURE FUND		
A&A ELECTRIC CO OF BEAUMONT INC	3,200.00	492780
VIGILANT SOLUTIONS LLC	280.00	492965
SUPERION LLC	3,642.24	492986 7,122.24**
D. A. HOT CHECK FUND		
SHI GOVERNMENT SOLUTIONS, INC.	790.76	492898 790.76**
PAYROLL FUND		
JEFFERSON CTY. - FLEXIBLE SPENDING	14,437.00	492761
CLEAT	306.00	492762
JEFFERSON CTY. TREASURER	12,946.05	492763
RON STADTMUELLER - CHAPTER 13	182.31	492764
INTERNAL REVENUE SERVICE	208.00	492765
JEFFERSON CTY. ASSN. OF D.S. & C.O.	3,960.00	492766
JEFFERSON CTY. COMMUNITY SUP.	6,837.42	492767
JEFFERSON CTY. TREASURER - HEALTH	540,990.58	492768
JEFFERSON CTY. TREASURER - PAYROLL	1,876,006.18	492769
JEFFERSON CTY. TREASURER - PAYROLL	642,659.53	492770
MONEY LIFE INSURANCE OF AMERICA	72.54	492771
POLICE & FIRE FIGHTERS' ASSOCIATION	1,932.94	492772
JEFFERSON CTY. TREASURER - TCDRS	745,336.57	492773
JEFFERSON COUNTY TREASURER	2,903.68	492774
JEFFERSON COUNTY - TREASURER -	8,059.86	492775
NECHES FEDERAL CREDIT UNION	34,005.96	492776
JEFFERSON COUNTY - NATIONWIDE	62,110.30	492777
INVESCO INVESTMENT SERVICES, INC	806.66	492778
NORTH CAROLINA DEPT OF REVENUE	168.12	492779 3,953,929.70**
BRIC/FMA GRANT		
TIDAL BASIN GOVERNMENT CONSULTING	10,372.50	492991 10,372.50**
J C ASSISTANCE DISTRICT 4		
ENTERGY	8.96	492815 8.96**
MARINE DIVISION		
CITY OF NEDERLAND	21.40	492801
COCOMO JOE'S	162.00	492803

NAME	AMOUNT	CHECK NO.	TOTAL
W.W. GRAINGER, INC.	135.86	492811	
JACK BROOKS REGIONAL AIRPORT	1,161.82	492818	
SETZER HARDWARE, INC.	111.68	492845	
GALLS LLC	199.99	492957	
			1,792.75**
SHERIFF-SPINDLETOP GRANT			
VERIZON WIRELESS	114.39	492889	
			114.39**
			5,279,746.81***



PROCLAMATION

STATE OF TEXAS	§	COMMISSIONERS COURT
	§	
COUNTY OF JEFFERSON	§	OF JEFFERSON COUNTY, TEXAS

BE IT REMEMBERED at a meeting of Commissioners' Court of Jefferson County, Texas, held on the 8th day of March, 2022, on motion made by Everette "Bo" Alfred Commissioner of Precinct No. 4, and seconded by Vernon Pierce, Commissioner of Precinct No. 1, the following Proclamation was adopted:

2022 READING AND LOVE MATTERS APPRECIATION BANQUET

WHEREAS, SOC's, Children In Motion, Inc., 16th Annual Appreciation Banquet will be held on Thursday, April 14th; and

WHEREAS, the purpose of SOC, Save our Children, along with its sponsor/partners, and interested individuals is to help, love, and educate the children in our community in their elementary and secondary levels of education; and

WHEREAS, since 2003, SOC Save our Children has helped nurture nearly 12,000 young people to foster a greater interest in learning; and

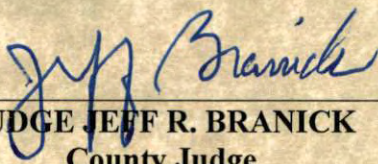
WHEREAS, SOC Save our Children provides tutoring services and in-school aid, reading and counseling programs as well as fun events for its students; and

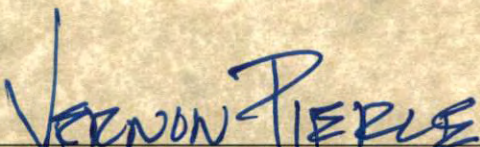
WHEREAS, SOC Save Our Children, through its continued partnership with local educators, elected officials and community leaders provides a wonderful learning environment for its students

NOW, THEREFORE, BE IT RESOLVED that the Commissioners Court of Jefferson County does hereby proclaim April 14, 2022 as SOC Reading and Love Matters Day in Jefferson County, and we also urge all people to attend their banquet and offer their service and gifts in support of the SOC effort to serve and help our children.

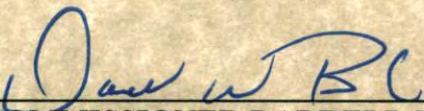
Signed this 8th day of March, 2022.

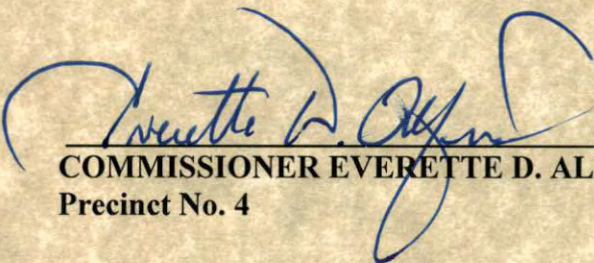



JUDGE JEFF R. BRANICK
County Judge


COMMISSIONER VERNON PIERCE
Precinct No. 1


COMMISSIONER MICHAEL S. SINEGAL
Precinct No.3


COMMISSIONER DARRELL W. BUSH
Precinct No. 2


COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

Form #2204 Rev. 10/2011

This space reserved for office
use

Submit to:
SECRETARY OF STATE
Government Filings Section
P O Box 12887
Austin, TX 78711-2887
512-463-6334



OATH OF OFFICE

Filing Fee: None

IN THE NAME AND BY THE AUTHORITY OF THE STATE OF TEXAS,
I, Rich Courville, do solemnly swear (or affirm), that I will faithfully
execute the duties of the office of JCESD No 3 of
the State of Texas, and will to the best of my ability preserve, protect, and defend the Constitution and laws
of the United States and of this State, so help me God.

Signature of Officer

State of Texas)
County of Jefferson)

Sworn to and subscribed before me
this

(seal)

1 day of March, 2022

Signature of Notary Public or Other Officer
Administering Oath

JEFF BRANICK
Printed or Typed Name

Form #2201 Rev. 10/2011

This space reserved for office
use

Submit to:
SECRETARY OF STATE
Government Filings Section
P O Box 12887
Austin, TX 78711-2887
512-463-6334
512-463-5569 - Fax
Filing Fee: None

**STATEMENT OF OFFICER****Statement**

I, Rich Courville, do solemnly swear (or affirm) that I have not directly or indirectly paid, offered, promised to pay, contributed, or promised to contribute any money or thing of value, or promised any public office or employment for the giving or withholding of a vote at the election at which I was elected or as a reward to secure my appointment or confirmation, whichever the case may be, so help me God.

Position to Which Elected/Appointed: Commissioner to the JCESD No 3

City and/or County: Jefferson

Execution

Under penalties of perjury, I declare that I have read the foregoing statement and that the facts stated therein are true.

Date: March 1, 2022

[Signature]
 Signature of Officer

Revised 10/2011

2021 TEXAS WINTER UTILITY BILLING CONTRACT OF EMPLOYMENT

I, the undersigned ("Client"), appoint and employ, **The Potts Law Firm, LLP**, hereinafter referred to as "Attorneys", as my attorneys at law and in fact, to **represent Client in regards to my claims against Symmetry Energy Solutions and/or its parents company and/or its affiliates relating to the utility billing practices during the mid-February Texas winter weather events.**

I. BASIS FOR CONTRACT

Client hereby retains the Attorneys to represent Client, to collect the damages awarded in the dispute referenced above. Client authorizes the Attorneys to associate co-counsel as the Attorneys may deem necessary and to share any fees contemplated in this contract with such co-counsel with the express understanding that associating with co-counsel will NOT increase the fees set forth in Paragraph III below.

After the appropriate investigation, Attorneys reserve the right to rescind this contract. I hereby fully empower, authorize and direct said attorneys to manage and handle, as they deem necessary, best and proper, said claim, cause of action, suit or suits that may grow out of the same, and to prosecute said causes of action with or without suit in any manner they deem advisable. They are hereby authorized and empowered to deliver in my name any and all notices, receipts, authorizations, releases, pleadings and any other documents and instruments proper in the handling of said claim.

You have a right to be protected from lawyers that engage in improper solicitation of clients. The Potts Law Firm does not initiate personal contact with potential clients and does not knowingly associate with lawyers that engage in improper solicitation of clients in any violation of the Texas Disciplinary Rules of Professional Conduct. Since cases are often referred to our firm from other lawyers around the nation, it is impossible for us to know all of the circumstances under which the client initially retained referral counsel. If you believe that you were improperly solicited by an attorney, representative or other third party, now is your opportunity to bring it to the attention of a lawyer or employee of The Potts Law Firm. You affirmatively and unequivocally certify and attest that you were not personally contacted or improperly solicited as a client in violation of any of the Texas Disciplinary Rules of Professional Conduct. Do not sign our contingency fee agreement if you believe that your case was improperly solicited.

II. CLIENT'S COOPERATION

The Client agrees to cooperate fully with the Attorneys, disclose all relevant facts and promptly advise the Attorneys of any change in address or telephone number. Client authorizes the Attorneys to use their professional judgment and any relevant documents, records or other information that the Attorneys deem necessary to the proper representation of the Client. The Client agrees to promptly comply with all reasonable requests of the Attorneys on all matters included in this contract. Client agrees that Firm's banks, lenders, and finance companies may have access to their case and settlement information. The Client understands that failure to fully cooperate may be a basis for termination of this contract. Client further agrees that the Attorneys may withdraw from representing the Client if the Attorneys deem withdrawal warranted.

III. CONTINGENT FEE ARRANGEMENT

If the case is not certified by the court as a class action, I agree in consideration of the services rendered and to be rendered to the Client by the Attorneys, to grant to the Attorneys for the Attorneys' compensation in handling the Client's lawsuit in the following present undivided interest and assignment in the claims and the lawsuit at **the greater of (a) 40% of the gross monetary amount reduced on Client's pending utility bill from Symmetry Energy Solutions after the effective date of this contract; or (b) 40% of gross damages.** The fee percentage calculation will be made based on the gross recovery before deduction of any expenses unless the jurisdiction of Client's residence requires otherwise. In such cases, the fee calculation shall be made based on the requirements of that jurisdiction. In the event there is no recovery client owes firm nothing.

If the case is certified by the court as a class action and if recovery is made, I understand and agree that Attorneys shall petition the court for an award of attorneys' fees. I understand that the court may award attorneys' fees, if any, based upon a percentage of the fund created by successful litigation, based upon a lodestar method, or based upon some other method such as an agreement between the parties. I understand that the lodestar method is based upon the time Attorneys have spent on the case, an hourly rate approved by the court, and a multiplier at the court's discretion. I authorize Attorneys to petition the court for attorneys' fees based upon any method authorized by law. In the event there is no recovery client owes firm nothing.

IV. EXPENSES FOR THE LAWSUIT

The Attorneys agree to pay for any and all reasonable expenses associated with the prosecution of client's claim. In the event that there is no recovery, client owes firm nothing. In the event of a recovery, the Client understands and agrees that Attorneys will be paid all reasonable costs, charges or expenses made or incurred by the Attorneys in the Attorneys' handling of the Client's claim and causes of action, including but not limited to expenses or charges for obtaining medical records, court costs, filing fees, depositions, and expert witnesses. Client understands that it may be necessary for Attorneys to obtain financing to pay for the expenses and prosecution of his/her case. Client hereby authorizes Attorneys to obtain such financing for his/her case at the Attorneys' sole discretion. Client further understands that the interest on any such financing shall be an expense of the case. Client agrees to pay the monthly interest from such financing at the rate borrowed by Attorneys at the conclusion

of the case. However, such interest shall not exceed a maximum of 8.5% per year. In the event that there is no recovery, Client does not owe Attorneys for these charges. If a matter requires experience or expertise uncommon to the Attorneys, outside counsel may be obtained. Firm will be reimbursed firm's reasonable costs associated with the outside assistance.

V. RESOLUTION OF CASE BY SETTLEMENT

The Client agrees not to attempt on his/her part to unilaterally settle the claims made the subject of this contract. The Client will rely exclusively upon the representation of the Attorneys during any settlement negotiations. No settlement will be made without the Client's consent. In the event of settlement or judgment, Client hereby authorizes Attorneys to endorse any settlement or judgment checks on his/her behalf in order to expedite disbursement of settlement funds.

VI. DUTY TO INFORM LAW FIRM/OTHER DISCLOSURES

Client understands that filing for bankruptcy may affect the Client's ability to retain some or all of any recovery in this matter. Client understands that he or she is obligated to keep the Attorneys informed of any bankruptcy filing. Client further understands that failure to disclose this lawsuit in a bankruptcy proceeding may result in a dismissal of this lawsuit and possibly sanctions by the bankruptcy court.

VII. REFERRAL OR ASSOCIATION OF ADDITIONAL COUNSEL

Client agrees that Attorneys may refer this matter to another lawyer or associate additional lawyers to assist in representing Client and prosecuting the Client's cause of action. Prior to referral or association becoming effective, Client must consent in writing to the terms of the arrangement after being advised of (1) the identity of the lawyer or law firm involved; (2) whether the fees will be divided based on the proportion of services rendered or by lawyers agreeing to assume joint responsibility for the representation; and (3) the share of the fee that each lawyer or law firm will receive or, if the division is based on the proportion of services performed, the basis on which the division will be made. The referral or association of additional attorneys will not increase the total fee owed by the Client. Client further understands that any such fee and expense sharing agreement reached between the attorneys of **The Potts Law Firm, LLP**, and any other lawyers or law firms will NOT change in any manner the contractual obligation as detailed herein that Client has agreed to pay in the prosecution, handling and collection of this matter.

VIII. TEXAS LAW TO APPLY

This Agreement shall be construed under and in accordance with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Harris County, Texas.

IX. PARTIES BOUND

This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, executors, administrators, legal representatives, successors and assigns where permitted by this Agreement.

X. LEGAL CONSTRUCTION

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

XI. PRIOR AGREEMENTS SUPERCEDED

This Agreement constitutes the sole and only agreement of the parties hereto and supersedes any prior understandings or written or oral agreements between the parties with respect to its subject matter. No amendment to this Agreement shall be enforceable unless it is reduced to writing and signed by the Parties.

Client certifies and acknowledges that Client has had the opportunity to read this Agreement, has been provided a copy of this Agreement, and has knowingly and voluntarily entered into this Agreement fully aware of its terms and conditions. Client further certifies and acknowledges that the decisions to pursue these claims and to employ these particular Attorneys are solely Client's independent decisions after carefully considering the matters.

XII. NO ASSIGNMENT OF INTEREST IN CLAIM TO OTHERS

Client certifies and represents to Attorneys that they have revoked all prior agreements with other attorneys, if any, and that they have not assigned, sold or transferred any interest in the Claims except to the extent said Claims are assigned to Attorneys as specified above.

XIII. STATE BAR OF TEXAS NOTICE

The State Bar of Texas investigates and prosecutes professional misconduct committed by Texas attorneys. Although not every complaint against or dispute with a lawyer involves professional misconduct, the State Bar, Office of General Counsel, will provide you with information about how to file a complaint. For more information, please call (800) 932-1900. This is a toll-free phone call.

SIGNED on this date_____.

Client Acceptance to Contract by Signature(s)
JEFFERSON COUNTY, TEXAS

 Client's Signature

 Jeff Branick, County Judge

 Client's Full Name (Printed) and Title

 1149 Pearl Street, Beaumont, Texas 77701
 (Address)

 409-835-8466

 Business Phone / Cell Phone

THE POTTS LAW FIRM, LLP

By: _____
 Attorney Signature



LAMAR UNIVERSITY
MEMBER THE TEXAS STATE UNIVERSITY SYSTEM™

**AGREEMENT
BETWEEN
JEFFERSON COUNTY COMMISSIONERS COURT
AND
LAMAR UNIVERSITY
(ON BEHALF OF THE LAMAR UNIVERSITY MEDIA ALLIANCE)**

PURPOSE OF THIS AGREEMENT:

The purpose of this Agreement is to define the responsibilities of Lamar University by and through its Lamar University Media Alliance ("LUMA"), and Jefferson County Commissioners Court, ("JCCC") as it pertains to the SETCAST program and summarizes the understandings of both parties in relation to the video production services provided for the JCCC'S meetings.

CONTRACT TERM: This Agreement is for services provided from September 1, 2021 to August 31, 2022, unless terminated by either party giving thirty (30) days written notice to the other.

DUTIES OF BISD:

- a) Provide LUMA with a schedule and agenda for all regular meetings of JCCC, and
- b) Provide location in the meeting room for the camera operator to setup the equipment needed to tape the meetings, and
- c) Provide an audio outlet for the camera operator to plug into the meeting room sound system.

DUTIES OF LUMA:

- a) Provide video production services of each scheduled regular or special meetings of JCCC, and
- b) Provide any post production work needed to broadcast the videotapes, and
- c) Provide the delivery of the videotapes/DVD's to proper site for their broadcast, and
- d) Supply all equipment and supplies needed to produce videotapes of the meetings, and
- e) Provide copies of all JCCC meetings.

COMPENSATION TO LUMA:

- a) JCCC agrees to pay Twelve Thousand Four Hundred Ninety-Nine Dollars (\$12,499) to Lamar University for services outlined above.
- b) Payment will be made to Lamar University upon delivery of this agreement and invoice.

GENERAL PROVISIONS:

1. **Liability:** To the extent permitted by Texas law, each party agrees to indemnify and hold harmless the other from the negligent acts of its own employees, and agents. Notwithstanding any provision of this contract, nothing herein shall be construed as a waiver by either party of its constitutional, statutory or common law rights, privileges,



immunities or defenses. To the extent the terms of this paragraph conflicts with any other provision in this agreement, the terms of this paragraph shall control.

2. **Venue:** This Agreement shall be governed, construed and enforced in accordance with the laws of the State of Texas. Any legal action relating to this Agreement shall be brought in Jefferson County, Texas.
3. **Disputes:** If a dispute, or controversy, or claim arises out of or relates to this Agreement, the parties will make a good faith attempt to resolve the issues. If the dispute cannot be settled by the parties, the parties agree to follow the dispute resolution process in Chapter 2260 of the Texas Government Code.
4. **Nondiscrimination:** In their execution of this agreement, the parties and others acting by or through them shall comply with all federal and state laws prohibiting discrimination, harassment, and sexual misconduct. Any breach of this covenant may result in termination of this agreement.
5. The parties will comply with all applicable federal, state, and local laws, ordinances and regulations in the performance of this Agreement.
6. This Agreement constitutes the sole and only agreement of the parties hereto and supersedes any prior understandings or written or oral agreements between the parties pertaining to the subject matter herein. The parties may not amend this Agreement except in writing, dated after the date of this agreement and signed by each party's representative. This Agreement will become effective upon signatures by the authorized representatives of Lamar University and JCCC.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized representatives below.

For: **LAMAR UNIVERSITY**

For: **JEFFERSON COUNTY
COMMISSIONERS COURT**

By: _____

By: _____

Name: Robert H. Wagner

Name: Honorable Judge Jeff Branick

Title: Executive Director for
Campus Operations

Title: Jefferson County Judge

Date: _____

Date: _____

FILED FOR RECORD _____, 2022 AT ____ O'CLOCK ____ M.
COUNTY CLERK, JEFFERSON COUNTY, TEXAS

BY _____, DEPUTY

RECORDED _____, 2022 AT ____ O'CLOCK ____ M.
COUNTY CLERK, JEFFERSON COUNTY, TEXAS

BY _____, DEPUTY

RECORDED UNDER CLERK'S FILE NO. _____
IN THE OFFICIAL PUBLIC RECORDS OF JEFFERSON COUNTY, TEXAS
COUNTY CLERK, JEFFERSON COUNTY, TEXAS

BY _____, DEPUTY

METES AND BOUNDS DESCRIPTION

Being a 0.774 acre tract of land in the E. LOPEZ SURVEY, ABSTRACT No. 37, being all of Lot 8, Lot 9 and Lot 10 and a portion of Lot 41 of Gandy Addition, a map of which said Gandy Addition is recorded in Volume 7, Page 94 of the Map Records of Jefferson County, Texas and being that certain tract of land, designated Tract I and Tract II, described in that certain instrument to Donald Hardy, spouse of Paula Hardy, recorded under Clerk's File No. 2012009255 in the Official Public Records of Jefferson County, Texas, and the herein described 0.774 acres tract of land being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2" iron rod found in the south right-of-way line of Gordon Road for the northwest corner of that certain tract of land (called "5.571 acres"), described in that certain instrument to Fernando Padron and Ester Padron, recorded under Clerk's File No. 2017040228 in the Official Public Records of Jefferson County, Texas, the northeast corner of said Lot 10, the northeast corner of said Tract I and northeast corner and **POINT OF BEGINNING** of the said herein described tract of land, the said iron rod having a State Plane Coordinate value of North 13,877,632.33' and East 3,445,332.34';

THENCE South 02 deg. 53 min. 11 sec. East (called "South 00 deg. 20 min. East"), along and with the west line of the said "5.571 acres" tract, the east line of said Lot 10 and east line of Tract I, a total distance of 139.69 feet (called "140 feet"), to an iron rod with "FAUST" cap found for the southeast corner of said Lot 10, the southeast corner of Tract I, the northeast corner of said Lot 41, the northeast corner of said Tract III and an angle point corner of the said herein described tract of land;

THENCE South 02 deg. 51 min. 58 sec. East (called "South 00 deg. 20 min. East"), continuing along and with the west line of the said "5.571 acres" tract, the east line of said Lot 41 and east line of said Tract III, a total distance of 55.68 feet, to a 1" iron pipe found for the southeast corner of said Tract III and southeast corner of the said herein described tract of land;

THENCE South 87 deg. 27 min. 47 sec. West, over and across said Lot 41 and along with the south line of said Tract III, at a distance of 85.68 feet, passing a 1/2" steel rod with "AW&C LLC" cap set and continuing a total distance of 180.74 (called "180 feet"), to an iron rod with "FAUST" cap found for the southwest corner of said Tract III and southwest corner of the said herein described tract of land;

THENCE North 02 deg. 31 min. 27 sec. West, along and with the west line of said Tract III and continuing over and across said Lot 41, a total distance of 54.88 feet, to an iron rod with "WHITELEY" cap found in the south line of said Lot 7 and north line of said Lot 41 for the northwest corner of said Tract III and most southerly northwest corner of the said herein described tract of land;

THENCE North 87 deg. 10 min. 38 sec. East (called "North 89 deg. 40 min. East"), along and with the said south line of Lot 7, the north line of said Tract III and north line of Lot 41, a total distance of 9.95 feet, to a flat bar in concrete found for the southeast corner of said Lot 7, the southwest corner of said Lot 8, the southwest corner of said Tract I and an interior "all" corner of the said herein described tract of land;

THENCE North 02 deg. 38 min. 21 sec. West (called "North 00 deg. 20 min. West"), along and with the common line of said Lot 7 and Lot 8 and west line of said Tract I, a total distance of 139.80 feet (called "140 feet"), to a 5/8" iron rod found in the hereinbefore said south right-of-way line of Gordon Road for the northeast corner of said Lot 7, the northwest corner of said Lot 8, the northwest corner of said Tract I and northwest corner of the said herein described tract of land;

THENCE North 87 deg. 14 min. 59 sec. East (called "North 89 deg. 40 min. East"), along and with the said south right-of-way line of Gordon Road, the north line of said Lot 8 and Lot 9 and north line of said Tract I, at a distance of 85.00 feet, passing a 1/2" steel rod with "AW&C LLC" cap set and continuing a total distance of 169.85' (called "170 feet"), returning back to the **POINT OF BEGINNING** and containing 0.774 acre of land, more or less.

NOTES

DIMENSIONS INDICATED HEREON ARE GRID DIMENSIONS DETERMINED BY G.P.S. SURVEYING, BASED UPON THE ALLTERRA CENTRAL, TRIMBLE V.R.S. R.T.K. G.P.S. NETWORK, REFERENCED TO THE (N.A.D. 83) TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) AND THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D.88) USING GEOID MODEL "GEOID 18". COORDINATE, DISTANCE AND ELEVATION UNITS ARE U.S. SURVEY FEET.

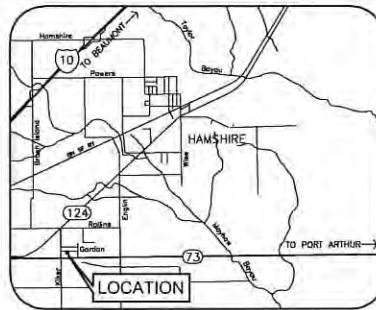
CONVERGENCE ANGLE: 02' 15" 56.93529"
SCALE FACTOR = 0.999989991, COMBINED FACTOR = 0.9999903670,
AT THE P.O.B., THE NORTHEAST CORNER OF LOT 10.
("CORPSCON 6.01" U.S.A.C.E.).

FLOOD ZONE: X (AREAS OF MINIMAL FLOOD HAZARD)

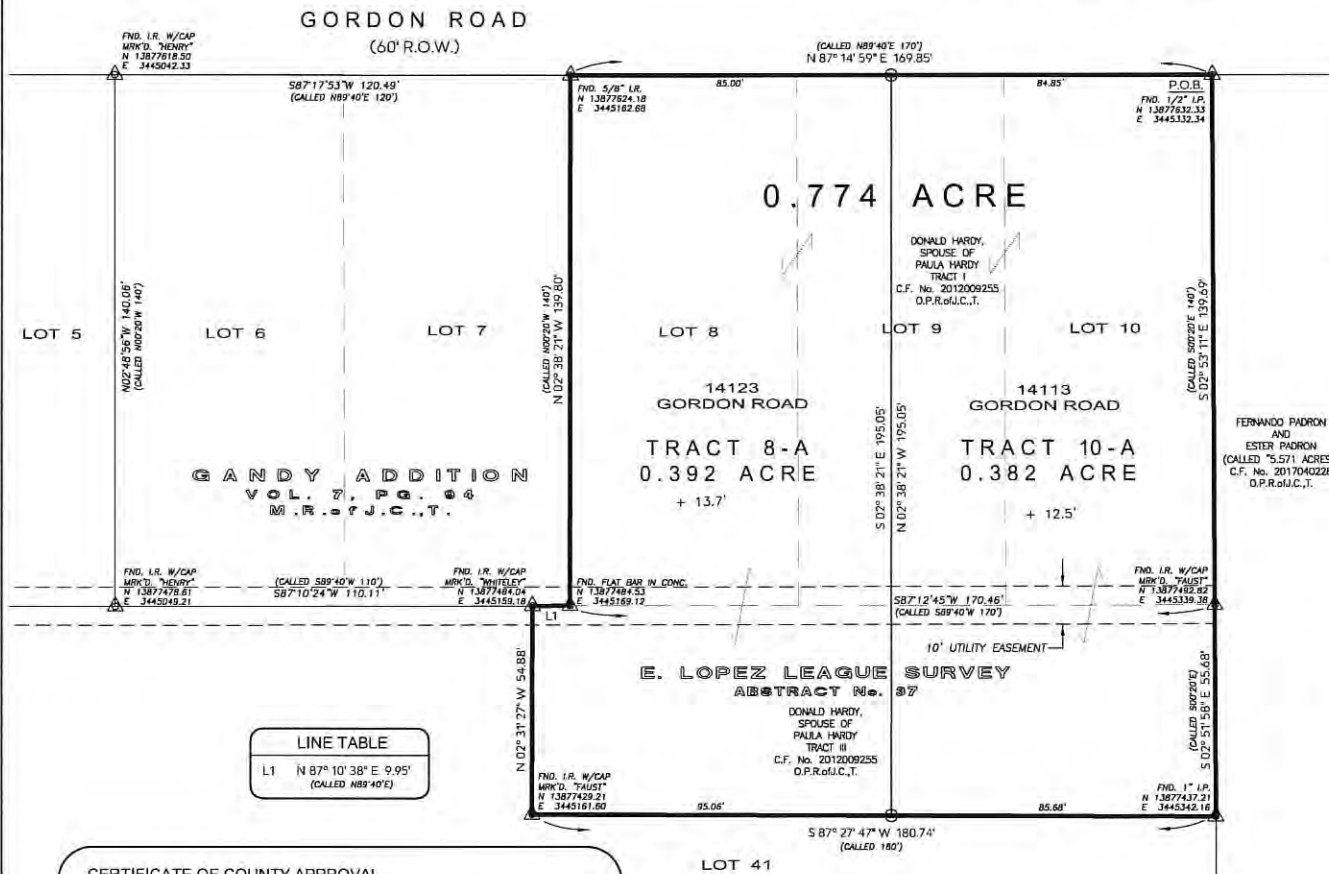
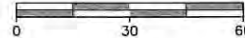
FIRM: 4803850355C

DATED: 06-06-2022

FLOOD ZONE DETERMINED FROM FEMA MAP. AW&C DOES NOT WARRANT OR NECESSARILY SUBSCRIBE TO THE ACCURACY OF SAID FEMA MAP.



VICINITY MAP
N.T.S.



CERTIFICATE OF COUNTY APPROVAL

APPROVED BY THE COMMISSIONERS COURT OF JEFFERSON COUNTY, TEXAS. JEFFERSON COUNTY ASSUMES NO OBLIGATIONS FOR THE MAINTENANCE OF STREETS, ROAD, DRAINAGE OR ANY OTHER IMPROVEMENTS.

THIS ____ DAY OF _____, A.D., 2022.

COMMISSIONER PRECINCT 1

COMMISSIONER PRECINCT 2

COMMISSIONER PRECINCT 3

COMMISSIONER PRECINCT 4

COUNTY JUDGE

CERTIFICATE OF COUNTY ENGINEER APPROVAL

I, MICHELLE FALGOUT, COUNTY ENGINEER OF JEFFERSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE PLAT OF THIS REPLAT COMPLIES WITH ALL EXISTING RULES AND REGULATIONS OF THE OFFICE AS ADOPTED BY THE COMMISSIONER'S COURT OF JEFFERSON COUNTY, TEXAS.

THIS ____ DAY OF _____, A.D., 2022.

MICHELLE FALGOUT
COUNTY ENGINEER

DEVELOPMENT REGULATION NOTES

NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS REPLAT MAY BEGIN UNTIL ALL JEFFERSON COUNTY DEVELOPMENT REQUIREMENTS HAVE BEEN MET.

MUNICIPAL/ETJ NOTE:

THIS SUBJECT TRACT FOR REPLAT IS NOT WITHIN ANY EXTRA TERRITORIAL JURISDICTION.

SCHOOL DISTRICT NOTE:

THIS REPLAT IS WITHIN THE BOUNDARIES OF THE HAMSHIRE-FANNETT ISD.

UTILITY NOTES:

ELECTRIC SERVICE WILL BE PROVIDED BY: ENTERGY

GAS SERVICE WILL BE PROVIDED BY:

WATER SERVICE WILL BE PROVIDED BY: PRIVATE WELL

SEWER SERVICE WILL BE PROVIDED BY: TRINITY BAY CONSERVATION DISTRICT

SEWAGE DISPOSAL NOTE:

NO STRUCTURE IN THIS REPLAT SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM, WHICH HAS BEEN APPROVED AND PERMITTED BY JEFFERSON COUNTY.

INDIVIDUAL WATER SUPPLY NOTE:

NO STRUCTURE IN THIS REPLAT SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY, STATE APPROVED COMMUNITY WATER SYSTEM OR ENGINEERED RAINWATER COLLECTION SYSTEM.

UTILITY EASEMENT NOTE:

ALL EASEMENTS SHOWN HEREON SHALL BE KEPT CLEAR OF FENCES, BUILDINGS, PLANTINGS AND OTHER OBSTRUCTIONS TO THE OPERATION OF UTILITY FACILITIES.

REPLAT OF LOTS 8, 9, 10 AND A PORTION OF LOT 41 OF GANDY ADDITION, DESCRIBED IN VOLUME 7, PAGE 94 OF THE MAP RECORDS OF JEFFERSON COUNTY, TEXAS INTO LOT 8-A AND LOT 10-A

CERTIFICATE OF OWNER

STATE OF TEXAS
COUNTY OF JEFFERSON

WE, DONALD HARDY AND PAULA HARDY, OWNERS OF THE PROPERTY REPLATED IN THE ABOVE AND FOREGOING MAP OF

REPLAT OF
LOTS 8, 9, 10 AND A PORTION OF LOT 41 OF GANDY ADDITION,
DESCRIBED IN VOLUME 7, PAGE 94 OF THE
MAP RECORDS OF JEFFERSON COUNTY, TEXAS
INTO LOT 8-A AND LOT 10-A

DO HEREBY MAKE SUBDIVISION OF SAID PROPERTY AND DEDICATE TO PUBLIC USE PUBLIC EASEMENTS SHOWN THEREON FOREVER, AND DO HEREBY BIND OURSELVES, OUR HEIRS, SUCCESSORS AND ASSIGNS TO WARRANT AND FOREVER DEFEND THE TITLE TO THE LAND SO DEDICATED.

WITNESS OUR HANDS IN PORT ARTHUR, JEFFERSON COUNTY, TEXAS, THIS ____ DAY

OF _____, A.D., 2022.

DONALD HARDY, OWNER

PAULA HARDY, OWNER

STATE OF TEXAS
COUNTY OF JEFFERSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED DONALD HARDY AND PAULA HARDY, KNOWN TO ME TO BE THE PERSONS WHOSE NAMES ARE SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN SET FORTH.

GIVEN UNDER MY HAND AND SEAL OF OFFICE,

THIS ____ DAY OF _____, A.D., 2022.

NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS
MY COMMISSION EXPIRES _____ (DATE)

CERTIFICATE OF SURVEYOR

THIS IS TO CERTIFY THAT I, E. JAMES VERRETT, A REGISTERED PROFESSIONAL LAND SURVEYOR OF THE STATE OF TEXAS, HAVE PLATTED THE ABOVE SUBDIVISION FROM AN ACTUAL SURVEY ON THE GROUND AND THAT ALL BLOCK CORNERS, ANGLE POINTS AND POINTS OF CURVE ARE PROPERLY MARKED OR REFERENCED WITH 1/2" STEEL RODS WITH PLASTIC CAP MARKED "AW&C LLC" OR FOUND AS SHOWN, AND THAT THIS PLAT CORRECTLY REPRESENTS THAT SURVEY MADE UNDER MY SUPERVISION.

PRELIMINARY-FOR REVIEW ONLY

E. JAMES VERRETT
R.P.L.S. No. 1781

LEGEND

- △ FOUND OBJECT AS SHOWN
- SET 1/2" STEEL ROD WITH "AW&C LLC" CAP
- P.R.O.F.I.C., T. OFFICIAL PUBLIC RECORDS OF JEFFERSON COUNTY, TEXAS
- M.R.O.F.I.C., T. MAP RECORDS OF JEFFERSON COUNTY, TEXAS



DATE OF PLAT:
FEBRUARY 9, 2022

LS22-046

FB No. 137, PG. 37

3120 Central Mall Drive
Port Arthur, TX 77643

409.724.7888
awceng.com



JEFFERSON COUNTY SHERIFF'S OFFICE

Zena Stephens, Sheriff

5030 Hwy 69 S.
Beaumont, TX 77705
(409) 726-2500

Donta Miller
Chief of Law Enforcement
dmiller@co.jefferson.tx.us

John Shauburger
Chief of Corrections
jshauburger@co.jefferson.tx.us

MEMORANDUM

DATE: March 2, 2022

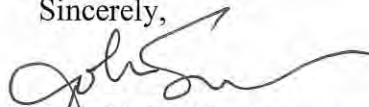
TO: Honorable Judge Jeff Branick
Commissioner Vernon Pierce
Commissioner Darrell Bush
Commissioner Michael Sinegal
Commissioner Everette "Bo" Alfred

FROM: Chief John Shauburger

RE: US Marshals modification to inter-governmental agreement

Please consider and possibly approve U.S. Department of Justice, United States Marshal Service modification no. 20 to the current inter-governmental agreement 78-01-0077. The purpose of this modification is to adjust the current per diem rate.

Sincerely,


Chief John Shauburger

**U. S. Department of Justice
United States Marshals Service**

Modification of Intergovernmental Agreement

Agreement No. 78-01-0077	2. Effective Date February 1, 2021	3. Facility Code(s) 6DH	4. Modification No. Sixteen (16)	5. DUNS No. 010807-535
6. Issuing Federal Agency United States Marshals Service Prisoner Operations Division Procurement Branch CG-3, Suite 300 Washington, DC 20530-0001		7. Local Government Jefferson County Jail 1001 Pearl Street Beaumont, TX 77701		
8. Appropriation Data 15X1020	9. Per-Diem Rate \$91.92		10. Guard/Transportation Hourly Rate \$33.03 Mileage shall be reimbursed by the Federal Government at the GSA Federal Travel Regulation Mileage Rate.	
11. EXCEPT AS PROVIDED SPECIFICALLY HEREIN, ALL TERMS AND CONDITIONS OF THE IGA DOCUMENT REFERRED TO IN BLOCK 1, REMAIN UNCHANGED. TERMS OF THIS MODIFICATION: The purpose of this modification is to adjust the current per diem of \$87.57 to \$91.92 and guard/transportation rate from \$30.30 to \$33.03 to reflect the Department of Labor Wage Determination (WD) Number 2015-5217 (Rev 19) dated 12/27/2021 to be effective 2/1/2022. ALL OTHER CONDITIONS AND TERMS ARE TO REMAIN THE SAME IN ACCORDANCE WITH THE TERMS OF THE CURRENT INTERGOVERNMENTAL AGREEMENT.				
12. INSTRUCTIONS TO LOCAL GOVERNMENT FOR EXECUTION OF THIS MODIFICATION:				
A. ☐ LOCAL GOVERNMENT IS NOT REQUIRED TO SIGN THIS DOCUMENT		B. ☒ LOCAL GOVERNMENT IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN ALL COPIES TO U. S. MARSHAL		
13. APPROVALS				
A. LOCAL GOVERNMENT _____ SIGNATURE _____ TITLE DATE		B. FEDERAL GOVERNMENT _____ SIGNATURE Assistant Chief, Procurement _____ TITLE DATE		

Regular, March 08, 2022

There being no further business to come before the Court at this time,
same is now here adjourned on this date, March 08, 2022