



# **INVITATION FOR BIDS (IFB)**

**No. PCCD-21-LPCW23Repair-01**

**December 3, 2020**

**STRUCTURAL REPAIR  
of  
Lower Plum Creek Watershed  
Floodwater Retarding Structure Site 23  
Caldwell County, Texas**

**Contracting Local Organization  
Plum Creek Conservation District  
Lockhart, Texas**

**Sponsors  
Caldwell-Travis Soil and Water Conservation District  
Hays County Soil and Water Conservation District  
Plum Creek Conservation District**

**In cooperation with:**

**Texas State Soil and Water Conservation Board**

## PLAN HOLDER REGISTRATION FORM / TERMS & CONDITIONS

Invitation for Bids (IFB) No. PCCD-21-LPCW23Repair-01

Lower Plum Creek Watershed, Floodwater Retarding Structure Site 23 – STRUCTURAL REPAIR

It is the responsibility of all persons who download bid documents to REGISTER as a Plan Holder with the Plum Creek Conservation District (PCCD). Registered Plan Holders will be advised via email or other means of all IFB Amendments that are issued, and all Amendments will be available for downloading at the Plum Creek Conservation District website: <http://pccd.org> (**Job Bids tab**). A bidder's failure to acknowledge receipt of an IFB Amendment (see IFB PART I, Subpart B, Instructions to Bidders) may result in rejection of the sealed bid.

**TO REGISTER**, please fill out information below (all fields are mandatory) and submit form via:

FAX to 512-398-7776 (Attention: Daniel Meyer, PCCD Executive Manager)

-- or --

Scan and EMAIL completed form to **both** of the following email addresses:

daniel.meyer@pccd.org

jamaynard1@msn.com

SIGNATURE (Contact Person listed below): \_\_\_\_\_

Company Name: \_\_\_\_\_

Contact Person/Title: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Office Phone: \_\_\_\_\_ Mobile: \_\_\_\_\_ FAX: \_\_\_\_\_

Email Address: \_\_\_\_\_

Bid documents for this project may be downloaded from this site, for bidding purposes only, if the User agrees, without exception, to the following terms and conditions:

The User agrees that electronic media documents downloaded from this site are for their use in preparation of their bid and are offered as a convenience to the User. Use of these materials for any other purpose shall be without liability to Plum Creek Conservation District and their consultants. The User acknowledges and agrees that Plum Creek Conservation District's instruments of service are the printed hard copy (as amended) of the Invitation for Bids issued for the respective project as available for viewing at the Plum Creek Conservation District office. In the event of a conflict in their contents, the printed hard copy shall take precedence over the electronic media. Plum Creek Conservation District's electronic media are furnished without guarantee of compatibility with the bidder's software or hardware. It is the User's responsibility to determine/evaluate the capability of their equipment to provide documents that are accurate for size, scale, and content.

If the User elects to only download partial information (selected sheets of the drawings or pages of the specifications), they shall be responsible to obtain all pertinent bidding information to adequately and accurately prepare their bid proposal. The User is responsible to include in their proposal all of the Required Bid Information as specified in IFB PART I, Subpart B, Instruction to Bidders #3.

The User agrees to indemnify, defend and hold harmless the Plum Creek Conservation District, their consultants and the officers and employees and any of them from and against any and all claims, suits, losses, damages or costs, including attorney's fees, arising from or by reason of the User's use of these electronic media documents.

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**PART I – GENERAL PROVISIONS****SUBPART A****NOTICE TO BIDDERS**

Sealed bids for furnishing all labor, material and equipment and performing all work required for structural repair of Lower Plum Creek Watershed, Floodwater-Retarding Structure Site 23 will be received until **1:00 p.m. local time, Thursday, December 17, 2020**, at Plum Creek Conservation District (PCCD) office, 1101 West San Antonio Street, Lockhart, TX 78644, or may be mailed to this address. Promptly after 1:00 p.m. all bids received will be publicly opened.

Bids must be addressed to the attention of Daniel Meyer, PCCD Executive Manager, and mailed (or hand carried) to the above address in a sealed envelope (placed inside the mailing envelope, if any) labeled as follows:

- (1) IFB No. PCCD-21-LPCW23Repair-01
- (2) Bid Opening Date / Time: December 17, 2020 – 1:00 P.M.
- (3) Name and Address of Bidder

There will be a **pre-bid conference** beginning at 10:00 a.m. Wednesday, December 9, 2020, to be held at PCCD office, 1101 West San Antonio Street, Lockhart, Texas. The conference will be followed by a site showing of the project site. Attendance is not mandatory. However, prospective bidders are **HIGHLY ENCOURAGED** to attend the conference and site showing.

All bids require a bid guarantee in the amount of not less than five percent (5%) of the total bid. Requirements are outlined in PART I, Subpart B, Instructions to Bidders. The successful bidder will be required to submit payment and performance bonds within 5 (five) workdays after receipt of Notice of Award per PART III, Supplemental Conditions, Article 13.

**ESTIMATED PRICE RANGE:** Between \$100,000 and \$250,000

Plum Creek Conservation District reserves the right to reject any and all bids. Bids providing less than 30 calendar days for acceptance will not be considered and will be rejected. Telegraphic or facsimile (Fax) bids, modifications, or withdrawals are not authorized.

Plum Creek Conservation District is the Contracting Local Organization (CLO) responsible for soliciting and awarding a local contract for this project. The contract is receiving State funding from the Texas State Soil and Water Conservation Board.

**COVID-19 Alert:** PCCD may make every attempt to hold Pre-bid Conference and Bid Opening outdoors. If an activity must be held indoors, anyone entering the PCCD office building is encouraged to follow guidelines of the CDC for social distancing to the extent possible, face masks, and personal hygiene, and by entering, represent to PCCD that they are aware of CDC recommendations to avoid the spread of the Virus and, to the extent possible, are compliant with the recommendations; that they are not having symptoms of the Virus as described by the CDC and/or the Texas Department of State Health Services; and have not knowingly been in contact with others who have such symptoms.

PLUM CREEK CONSERVATION DISTRICT

**PART I – GENERAL PROVISIONS  
SUBPART B**

**INSTRUCTIONS TO BIDDERS**

1. **Submission of Bids / Bid Opening:** Bids in response to this Invitation for Bids (IFB) must be sealed, marked and addressed as directed in the Notice to Bidders. Failure to do so may result in a premature opening of, or a failure to open, such bid. Bids will be publicly opened at the time set for opening in the Notice to Bidders. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

2. **Conditions Affecting the Work:** Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Contracting Local Organization will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

NO digging or taking of core samples will be allowed. Persons visiting the site are asked to take due care to ensure the existing site conditions are not disturbed.

**Appointment Required to Visit the Project Site:** Please contact Daniel Meyer, PCCD Executive Manager (phone 512-398-2383) to make an appointment for an authorized person to accompany you to the project site. No unescorted visits to the site are allowed.

3. **Required Bid Information:** Forms which must be included in a bid are:

- (a) Exhibit A: Offer with appropriate 5% BID GUARANTEE.
- (b) Exhibit B: Bid Schedule.
- (c) Exhibit C: References.
- (d) Exhibit D: Bid Bond form.  
If a bid bond is submitted as the required bid guarantee, it must be executed on this form and in conformance with other requirements in these Instructions to Bidders.
- (e) Exhibit E: Bidder Certifications.  
Bidder must complete all applicable certifications and include in his/her bid.

4. **Preparation of Bid:** The bidder must submit his/her offer IN DUPLICATE (original plus one copy) on the forms furnished in this IFB, and the bid must be manually signed by a person or persons with authority to legally bind the individual, firm or corporation. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Facsimile (Fax) and telegraphic bids, modifications, or withdrawals will not be considered.

No bid will be considered unless all items in the bid schedule are priced. In case of error in the extension of price, the unit price shall govern. For other than bid items with a lump-sum "unit," the quantities listed in the bid schedule on which unit prices are requested are estimates only. Unless called for, alternate bids will not be considered.

Estimated Price Range: Between \$100,000 and \$250,000

Exemption from State, County, and Municipal Sales and Use Taxes. See Part II – General Conditions, Article 29 (Federal, State, and Local Taxes), paragraph (b). ***Bidders are entitled to EXCLUDE exempt taxes in their bid prices.*** Bidder is solely responsible to determine what tangible personal property and taxable services are eligible for exemption from these taxes.

Electronic Invitation for Bid (IFB) Documents. The IFB documents and IFB Amendments are available to interested parties electronically only, and no printed copies will be distributed. The Plum Creek Conservation District's instruments of service are the printed hard copy of the IFB (as amended) available for viewing at the Plum Creek Conservation District office. In the event of a conflict in their contents, the printed hard copy (as amended) shall take precedence over the electronic media. Plum Creek Conservation District's electronic media are furnished without guarantee of compatibility with the bidder's software or hardware. It is the user's responsibility to determine/evaluate the capability of their equipment to provide documents that are accurate for size, scale, and content. If an alteration of any kind to the CLO's printed hard copy IFB (as amended) is only discovered after the contract is executed and is or is not being performed, the contract is subject to immediate cancellation. Website to obtain documents (Adobe PDF format) is:

**[www.pccd.org](http://www.pccd.org)**

Click on Job Bids tab; then on IFB No. PCCD-21-LPCW23Repair-01,  
Lower Plum Creek Structural Repair – Site 23

5. **Submission of Offer in English Language/U.S. Currency:** Offers shall be in the English language and in terms of U. S. dollars or will be rejected.
6. **Explanation to Bidders / Inquiries:** Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed (**by noon on December 11, 2020**) for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment to the invitation for bids, drawings, specifications, etc., and each Amendment will be available electronically. The CLO will make a reasonable attempt to advise (via email or other method) all prospective bidders who have registered as a bid documents holder or that may otherwise be known to have received a copy of the bid documents when an IFB Amendment is available electronically. However, it is the bidder's responsibility to check the electronic bid documents website for any changes or additions to the documents originally posted. Receipt of all amendments must be acknowledged by the bidder in the space provided on the bid forms (PART I, Subpart C, Exhibit A, Offer) or by letter received before the time set for opening of bids (electronic, Fax, and telegraphic acknowledgements will not be accepted). All amendments will be bound with and made a part of the contract documents. Oral explanations or instructions given before the award of the contract will not be binding. Written requests shall be mailed, hand delivered, or sent via facsimile machine or email (telegraphic inquiries will not be accepted) to:

Daniel Meyer, Executive Manager, Plum Creek Conservation  
District, 1101 West San Antonio Street, Lockhart, TX 78644  
FAX #: 512-398-7776 EMAIL: **[daniel.meyer@pccd.org](mailto:daniel.meyer@pccd.org)**

"Facsimile," as used in this section means a written inquiry or request for explanation that is transmitted to and received by the Contracting Local Organization (CLO) via electronic equipment that communicates and reproduces both printed and handwritten material. Facsimile receiving data and compatibility characteristics are as follows: (a) Telephone number of receiving facsimile equipment: **512-398-7776**. (b) If you choose to transmit a facsimile inquiry, the CLO will not be responsible for any failure attributable to the transmission or receipt of the facsimile inquiry including, but not limited to, the following: (1) Receipt of garbled or incomplete inquiry. (2) Availability or condition of the receiving facsimile equipment. (3) Incompatibility between the sending and receiving equipment. (4) Delay in transmission or receipt of the inquiry. (5) Failure of the sender to properly identify the inquiry. (6) Illegibility of the inquiry.

7. **Bid Guarantee:** As a good faith deposit to ensure execution of a contract, each offer must be accompanied by a bid guarantee in the form of a certified or cashier's check (on a responsible bank in Texas) or bid bond, in the amount of not less than five percent (5%) of the total bid. Bid guarantee is to be made payable to: PLUM CREEK CONSERVATION DISTRICT. Bid guarantees, other than bid bonds, will be returned (a) to all bidders (except the three most qualified) within 3 days of the bid opening, and (b) to the three most qualified bidders upon execution by the most qualified bidder of such

further contractual documents and bonds as may be required by the bid as accepted. When a bid guarantee is required, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

Should the bidder to whom the contract is awarded fail or refuse to enter into a proper contract with the CLO, or fail or refuse to furnish the payment and performance bonds required by PART III, Article 5, or fail or refuse to provide additional Post-Award Information required by PART III, Article 4, within the time specified, the bidder forfeits the bid guarantee, and/or the CLO may pursue any other action allowed by law.

8. **Bid Bond Requirements:** Bond must be executed on the form provided (PART I, Subpart C. Exhibit D) by a corporate surety authorized and admitted to write surety bonds in the State of Texas. The surety must (i) hold a certificate of authority from the United States Secretary of the Treasury to qualify as a surety on obligations permitted or required under federal law; or (ii) have obtained reinsurance for any liability in excess of \$1,000,000 from a reinsurer that is an authorized reinsurer in the State of Texas or is a holder of a certificate of authority from the United States Secretary of the Treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law. U.S. Treasury Department Circular 570 is published in the *Federal Register* and lists Treasury approved surety companies and their underwriting limitations. All bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act. The original and one copy of bid bond shall be submitted with the bid.
9. **Late Submissions, Modifications, and Withdrawals of Bids:**
  - (a) Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered and will be returned to the bidder unopened.
  - (b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.
  - (c) The only acceptable evidence to establish the time of receipt at the Contracting Local Organization installation is the time/date stamp of that installation on the bid wrapper or other documentary evidence of receipt maintained by the installation.
  - (d) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the Contracting Local Organization will be considered at any time it is received and may be accepted.
  - (e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.
  - (f) If an emergency or unanticipated event interrupts normal Contracting Local Organization processes so as to cause postponement of the scheduled bid opening, and urgent Contracting Local Organization requirements preclude amendment of the solicitation or other notice of an extension of the opening date, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Contracting Local Organization processes resume.
10. **Tie Bid:** In the event of receipt of two or more bids from responsible bidders that are identical, in nature and amount, as the lowest and best bids, the Contracting Local Organization shall enter into a contract with only one of those bidders and must reject all other bids. The bidder shall be selected by the casting of lots in a manner prescribed by the Contracting Local Organization. All qualified bidders or their legal representatives may be present at the casting of lots. This provision does not prohibit the Contracting Local Organization from rejecting all bids.
11. **Qualification of Low Bidder:**
  - (a) After the low bidder has been determined, the next step is to consider the bidder's qualifications to perform the proposed contract. The award of a contract to a bidder solely on the basis of the

lowest price is not the policy of the Contracting Local Organization. The ability to obtain bonds does not necessarily qualify a bidder for award.

- (b) A contract may be awarded only after it has been determined that the bidder is qualified to perform the contract. Qualification reviews will be made of all pertinent factors including: financial resources or ability to obtain them; present or impending work commitments; record of past performance on comparable projects; business ethics and integrity; eligibility to receive an award under applicable laws and regulations; the necessary organization, experience, operational controls and technical skills or the ability to obtain them; and the necessary equipment or ability to obtain it, as may be needed to prosecute the work in an expeditious, safe and satisfactory manner.
- (c) If the bidder does not have adequate equipment but plans to obtain it after contract award, a firm commitment in writing from the suppliers must be furnished to the Contracting Local Organization. Also, if the bidder proposes to subcontract part of the work, they must provide information needed for the Contracting Local Organization's evaluation of the subcontractor's capability.
- (d) Before disqualifying the low bidder, the Contracting Local Organization will inform the bidder of the reason for the proposed disqualification.

**12. Disqualification of Bidders:** Listed are some of the causes which may be considered as sufficient for the disqualification of a bidder and the rejection of his/her offer:

- (a) Failure to conform to the essential requirements of the invitation for bids (e.g., incomplete offer) will result in rejection of the bid.
- (b) Bids from parties who are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, or from party presently on the State of Texas debarred vendor list maintained by the Texas Comptroller of Public Accounts, will be rejected. [See certification in PART I, Subpart C, Exhibit E, Section G.]
- (c) More than one offer for the same work from the same individual, firm, partnership or corporation.
- (d) Qualifying statements or accompanying qualifying letters that modify requirements or limit the bidder's liability will be cause for rejection of bid.
- (e) Evidence of collusion among bidders.
- (f) Poor performance in the execution of work under previous contracts, as determined by the Contracting Local Organization.
- (g) Being in arrears on existing contracts, in litigation with the Contracting Local Organization, or having defaulted on a previous contract.
- (h) Lack of comparable project experience.
- (i) The bid is materially unbalanced. I.e., a bid based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and there is reasonable doubt that the bid will result in the lowest overall cost to the Contracting Local Organization even though it may be the low evaluated bid.

**13. Submission of Post-award Information:** Within five (5) workdays after receipt of Notice of Award, Contractor will be required to submit post-award information as specified in PART III, Supplemental Conditions, Article 4.

**14. Award of Contract:** Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids (IFB), is most advantageous to the Contracting Local Organization, price and other factors considered. The Contracting Local Organization may, when in its interest, reject any or all bids or waive informalities or minor irregularities in bids received. Only one contract will be awarded and the award will be based on the total bid, corrected if necessary, for errors in price extensions and/or addition.



A response to an IFB is an offer to contract with the Contracting Local Organization based upon the terms, conditions and specifications contained in the IFB. Bids do not become contracts until a signed Notice of Award (NOA) is issued by the Contracting Local Organization.

Award of Contract to Nonresident Bidder. In accordance with Texas Government Code 2252.002, PCCD may not award a contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located.

15. **Officials Not to Benefit:** Any contract to be awarded as a result of this solicitation will not be awarded to any official of the Texas State Soil and Water Conservation Board, Plum Creek Conservation District, Hays County Soil and Water Conservation District (SWCD), or Caldwell-Travis SWCD, (all in the State of Texas), or to any firm in which any official or any member of such official's immediate family of these entities has direct or indirect interest in the pecuniary profits or contracts of such firms.
16. **Execution of Contract and Submission of Post-award Information:** The contract will include items outlined in PART I, Subpart D, Contract Agreement, Article IV. Within five (5) workdays after receipt of Notice of Award of the contract, the successful bidder shall execute the contract agreement and furnish the Contracting Local Organization with required post-award information as outlined in PART III, Supplemental Conditions, Article 4.
17. **Approval of Contract:** The contract will be approved and signed by the Plum Creek Conservation District President. The contract will not be binding upon the Contracting Local Organization until it has been executed by Plum Creek Conservation District and delivered to the Contractor.
18. **Specifications:** Specifications referred to but not included shall include all revisions and amendments in effect on the date of issuance of the IFB.
19. **Beginning of Work:** The Contractor shall commence work within ten (10) calendar days after receipt of a written Notice to Proceed as issued by the Contracting Officer and shall complete the work within 68 (sixty-eight) calendar days after receipt of the notice. Contractor shall not commence any work prior to issuance of the Notice to Proceed.
20. **Records:** Records listed below may be reviewed by interested parties at Plum Creek Conservation District, 1101 West San Antonio Street, Lockhart, Texas, by contacting Daniel Meyer or Karen Bassett (512-398-2383). Records may be viewed 8:00 a.m. to 5:00 p.m. (closed noon to 1:00 p.m.), Monday through Friday.

Complete official printed copy of IFB No. PCCD-21-LPCW23Repair-01 bid package, including 22" x 34" set of Drawing No. TX-EN-0786.

Engineering documents for viewing (also available on PCCD website):

- As-Built Plans, Site 23, Drawing No. 4-E-30,337 (17 total sheets)

## **PART I – GENERAL PROVISIONS**

### **SUBPART C**

### **BID FORMS**

### **Exhibits A through E**

**EXHIBIT A****OFFER**

Enclosed with this offer (Exhibits A through E) is a bid guarantee (bid bond or cashier's or certified check payable to PLUM CREEK CONSERVATION DISTRICT) in the amount of \$\_\_\_\_\_. It is agreed that in the event this offer is accepted by the Contracting Local Organization (CLO) and the undersigned bidder fails to execute a contract and submit required post-award information within five (5) workdays after receipt of Notice of Award of contract to him/her, the bidder forfeits the bid guarantee and the CLO may pursue any other action allowed by law. If this offer is accepted, the undersigned bidder agrees to execute a contract and submit required post-award information per contract terms, and also agrees to commence work within ten (10) calendar days after the date of receipt of written Notice to Proceed and to complete the entire works awarded under IFB No. PCCD-21-LPCW23Repair-01 within sixty-eight (68) calendar days commencing the day after Contractor receives written Notice to Proceed.

The undersigned acknowledges receipt of the following amendments:

Amendment No. 1 dated \_\_\_\_\_ Received \_\_\_\_\_  
 Amendment No. 2 dated \_\_\_\_\_ Received \_\_\_\_\_  
 Amendment No. 3 dated \_\_\_\_\_ Received \_\_\_\_\_  
 Amendment No. 4 dated \_\_\_\_\_ Received \_\_\_\_\_

**CONTRACTOR**

By \_\_\_\_\_

Print name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
 Secretary,  
 If Contractor is a Corporation

(SEAL)

**EXHIBIT B****BID SCHEDULE (Cover Sheet)**

The undersigned, in compliance with Invitation for Bids No. PCCD-21-PCW23Repair-01 for Lower Plum Creek Watershed, Floodwater Retarding Structure (FRS) Site 23 Structural Repair, Caldwell County, Texas, having examined the plans, specifications and bidding documents, the site of the proposed work, and being familiar with all the conditions surrounding performance of the proposed project; agrees to furnish all labor, material and equipment and perform all work required in accordance with the plans, specifications and contract documents for the prices below, if this offer is accepted by the Contracting Local Organization within \_\_\_\_\_ calendar days after the date bids are due. *[Note: Failure to insert a number means the bidder accepts the minimum thirty (30) calendar days as required in Notice to Bidders.]*

**Award Restriction**

One award for the aggregate for all bid items will be made under this solicitation.

For other than bid items with a lump-sum "unit," the quantities listed in the bid schedule on which unit prices are requested are estimates only.

**-- Bidders are entitled to EXCLUDE exempt taxes in their bid prices --**

[See PART I, Subpart B, Instructions to Bidders #4]

**TOTAL BID PRICE Lower PCW Site 23 Structural Repair:****In FIGURES:**

\$ \_\_\_\_\_

**In WORDS:** \_\_\_\_\_ **Dollars**

and \_\_\_\_\_ **Cents**

NOTE: AMOUNTS SHALL BE SHOWN IN BOTH WORDS AND FIGURES.  
IN CASE OF DISCREPANCY, THE AMOUNT SHOWN IN WORDS WILL GOVERN.

**Bidder's Name/Title (type or print):** \_\_\_\_\_

**Bidder's Signature:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**EXHIBIT B (continued)****BID SCHEDULE (Sheet 1 of 1)**

**LOWER PLUM CREEK WATERSHED  
SITE 23 Structural Repair  
Caldwell County, Texas**

<b>Item No.</b>	<b>Work or Material</b>	<b>Const Spec. No.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Amount</b>
1	Structure Removal, 6" Drainpipe and Fence	3	1 Job	Lump Sum	\$ xxxxxxxx	\$_____
2	Pollution Control	5	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____
3	Construction Surveys	7	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____
4	Mobilization and Demobilization	8	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____
5	Removal of Water	11	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____
6	Ductile-Iron Pipe	53	20	Lin. Ft.	\$_____	\$_____
7	Rock Riprap	61	1,159	Tons	\$_____	\$_____
8	Contractor Quality Control	94	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____
9	Site Preparation	420	1 Job	Lump Sum	\$ xxxxxxxxx	\$_____

**Total Bid (Site 23 Structural Repair)..... \$\_\_\_\_\_**

NOTE: Also enter amount of Total Bid in figures and words on Exhibit B, page GP-9 of 20.

**---- END OF BID SCHEDULE ----**

## EXHIBIT C

### REFERENCES

Bidder in accordance with PART I, Subpart B, Instructions to Bidders, Section 3(c) References, shall list below up to five (5) recent projects upon which he/she has performed work similar to that specified herein. All lines for each reference shall be filled in completely with up-to-date information. Any omissions to this form, discrepancies in reference, or unverifiable information may be grounds for disqualification of the bidder.

1. Project Name: \_\_\_\_\_  
Owner: \_\_\_\_\_ Total Contract Cost: \$ \_\_\_\_\_  
Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Number: (\_\_\_\_) \_\_\_\_\_
  
2. Project Name: \_\_\_\_\_  
Owner: \_\_\_\_\_ Total Contract Cost: \$ \_\_\_\_\_  
Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Number: (\_\_\_\_) \_\_\_\_\_
  
3. Project Name: \_\_\_\_\_  
Owner: \_\_\_\_\_ Total Contract Cost: \$ \_\_\_\_\_  
Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Number: (\_\_\_\_) \_\_\_\_\_

**EXHIBIT C (continued)**

4. Project Name: \_\_\_\_\_  
Owner: \_\_\_\_\_ Total Contract Cost: \$ \_\_\_\_\_  
Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Number: (\_\_\_\_) \_\_\_\_\_
5. Project Name: \_\_\_\_\_  
Owner: \_\_\_\_\_ Total Contract Cost: \$ \_\_\_\_\_  
Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Number: (\_\_\_\_) \_\_\_\_\_

# **EXHIBIT D**

## **BID BOND Form**

**A BLANK BID BOND FORM (2  
pages) IS INSERTED AFTER THIS  
PAGE FOR USE OF BIDDERS IN  
PREPARATION OF BID.**



<p align="center"><b>BID BOND</b> (See Instructions on Reverse)</p>					Date Bond Executed (Must not be later than bid opening date)	
Principal (Legal name and business address)					Type of Organization ("X" one) <input type="checkbox"/> Individual <input type="checkbox"/> Joint Venture <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Liability Company (LLC) <input type="checkbox"/> Corporation	
					State of Incorporation	
Surety(ies) (Name and business address)						
Penal Sum of Bond					Bid Identification	
Percent Of Bid Price	Amount Not to Exceed				Bid Date	Invitation No. <b>PCCD-21-LPCW23Repair-01</b>
	Million(s)	Thousand(s)	Hundred(s)	Cents	For: Construction	
<p>KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to <b>Plum Creek Conservation District, Lockhart, Texas</b>, hereinafter called the Contracting Local Organization, in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: Provided, That where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.</p> <p>THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.</p> <p>NOW, THEREFORE, if the Principal, upon acceptance by the Contracting Local Organization of his/her bid identified above, within the period specified therein for acceptance (30 days), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (5 workdays after receipt of the forms by him/her), or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Contracting Local Organization for any cost of procuring the work which exceeds the amount of his/her bid, then the above obligation shall be void and of no effect.</p> <p>Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Contracting Local Organization, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.</p> <p>IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.</p>						
Principal						
Signature(s)	1. _____ <div align="right">(Seal)</div>				2. _____ <div align="right">(Seal)</div>	
Name(s) & Title(s) [typed]	1. _____				2. _____	

CORPORATE SURETY(IES)				
SURETY A	Name & Address		State of Inc.	Liability Limit
	Signature(s)	1.  (Seal)	2.  (Seal)	
	Name(s) & Title(s) [typed]	1.	2.	
SURETY B	Name & Address		State of Inc.	Liability Limit
	Signature(s)	1.  (Seal)	2.  (Seal)	
	Name(s) & Title(s) [typed]	1.	2.	
SURETY C	Name & Address		State of Inc.	Liability Limit
	Signature(s)	1.  (Seal)	2.  (Seal)	
	Name(s) & Title(s) [typed]	1.	2.	
SURETY D	Name & Address		State of Inc.	Liability Limit
	Signature(s)	1.  (Seal)	2.  (Seal)	
	Name(s) & Title(s) [typed]	1.	2.	
SURETY E	Name & Address		State of Inc.	Liability Limit
	Signature(s)	1.  (Seal)	2.  (Seal)	
	Name(s) & Title(s) [typed]	1.	2.	

### INSTRUCTIONS

(1) The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his/her authority must be furnished.

(2) The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 5% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

(3) The name of each person signing this bid bond should be typed in the space provided.

(4) The person signing the bond for the surety must submit evidence of his/her authority to act for the surety.

(5) The corporate surety must be approved by the state in which the services or supplies are to be delivered or in which construction is to be performed and must be among those appearing on the U.S. Treasury Department's list of approved sureties.

## EXHIBIT E

### BIDDER CERTIFICATIONS

By submission of this bid, bidder certifies to all Sections in this Exhibit E.

Bidder should **circle appropriate answers** in Sections **A, B, and C**, and fill in blank in Section **E**.

#### **SECTION A: Texas Franchise Tax Certification**

Bidder [ **IS / IS NOT** ] currently delinquent in the payment of any franchise tax owed to the State of Texas, or is exempt from, or not subject to, such tax.

#### **SECTION B: Texas Resident/Nonresident Bidder Certification**

Bidder [ **IS / IS NOT** ] a Texas resident bidder as defined below.

DEFINITIONS: Per State of Texas House Bill 620.

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

"Texas resident bidder" means a bidder whose principal place of business is in this state, and includes a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

#### **SECTION C: Authority to Transact Business in Texas Certificate**

Complete ONLY if you are a Texas nonresident bidder.

- (1) Texas nonresident bidder [ **IS / IS NOT** ] a corporation, limited partnership, or limited liability company.  
*If answer is "IS NOT", do not complete C(2) and C(3) below.*
- (2) Bidder [ **HAS / HAS NOT** ] obtained a Certificate of Authority through the Texas Secretary of State to transact business in Texas. **Attach a copy of Certificate to bid if available.**
- (3) If response to C(2) is "HAS NOT", bidder agrees to present a current Certificate of Authority to the Contracting Local Organization by date post-award information is due: [ **YES / NO** ]

**SECTION D: Officials Not to Benefit:** Bidder certifies that its firm is not an official of the Texas State Soil and Water Conservation Board, Plum Creek Conservation District, Hays County Soil and Water Conservation District (SWCD), or Caldwell-Travis SWCD, (all in the State of Texas), or a firm in which any official or any member of such official's immediate family of these entities has direct or indirect interest in the pecuniary profits or contracts of its firm.

**SECTION E: Bonding:** Per Texas Administrative Code Rule 293.63(5), bidder must submit, along with the bid, the name of the person, firm, or corporation that will execute payment and performance bonds as required in PART III, Article 13: **List information below:**

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**SECTION F: Excluded Parties / Foreign Terrorist Organizations.** Bidder certifies that it is not listed on the Federal government's terrorism watch list as described in Executive Order 13224. Bidder also represents and warrants that it is not engaged in business with Iran, Sudan, or a foreign terrorist organization, as prohibited by Section 2252.152 of the Texas Government Code.

**SECTION G.** Bidder hereby certifies he/she is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, and is not presently on the State of Texas debarred vendor list maintained by the Texas Comptroller of Public Accounts.

**SECTION H: E-Verify.** Contractor certifies and ensures that it utilizes and will continue to utilize the U.S. Department of Homeland Security E-Verify system to determine the eligibility of all persons and subcontractors performing duties within Texas during the term of the contract.

**SECTION I: Israel Boycott.** Bidder represents and warrants that, pursuant to Section 2270.002 of the Texas Government Code, bidder does not boycott Israel and will not boycott Israel during the term of the contract.

***-- end of EXHIBIT E Bidder Certifications --***

**PART I – GENERAL PROVISIONS****SUBPART D****CONTRACT AGREEMENT (Sample)**

THIS AGREEMENT, made the \_\_\_\_\_ day of \_\_\_\_\_, 2020, by and between the Plum Creek Conservation District, Lockhart, Texas (hereinafter called Owner) and \_\_\_\_\_ (hereinafter called Contractor).

**WITNESSETH:**

THAT WHEREAS: in accordance with law, Owner had contract documents prepared and an Invitation for Bids published, for and in connection with the Structural Repair of Lower Plum Creek Watershed, Floodwater Retarding Structure Site 23, Caldwell County, Texas; and

WHEREAS, Contractor, in response to the Invitation for Bids, has submitted to Owner, in the manner and at the time specified, a sealed bid in accordance with Instructions to Bidders; and

WHEREAS, Owner, in the manner prescribed by law, has publicly opened, examined, and canvassed the bids submitted, and has determined Contractor to be the lowest responsible bidder for the work and duly awarded to Contractor a contract therefor, for the sum or sums named in Contractor's bid.

NOW, THEREFORE, in consideration of the compensation to be paid to Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, Owner for itself and its successors and assigns, and its, his/her, or their executors and administrators, as follows:

ARTICLE I. Contractor shall perform all work, including the assumption of all obligations, duties and responsibilities necessary to the successful completion of the contract and the furnishing of all materials and equipment required to be incorporated in and form a permanent part of the work; tools, equipment, supplies, transportation, facilities, labor, superintendence and services required to perform the work; and bonds, insurance and submittals; all as indicated or specified in the contract documents to be performed or furnished by Contractor for the work included in and covered by Owner's official award of this contract to Contractor, such award being based on the acceptance by Owner of Contractor's bid.

ARTICLE II. Owner shall pay to Contractor for performance of the work embraced in this contract, and Contractor shall accept as full compensation therefor, the sum (subject to adjustment as provided in the contract documents) of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for all work covered by and included in the contract award and designated in the foregoing Article I; payment thereof to be made in current funds in the manner provided in the contract documents.

ARTICLE III. The Contractor shall complete all work within sixty-eight (68) calendar days from the date Contractor receives written Notice to Proceed.

ARTICLE IV. The contract documents that comprise the Contract between Owner and Contractor, attached hereto and made a part hereof, consist of the following:

- (1) This Contract Agreement.
- (2) Contractor's Bid: Exhibits A - E.
- (3) Invitation for Bids (IFB) Amendment Numbers \_\_\_\_\_.
- (4) Post-bid information and supplementary information submitted by Contractor prior to execution of this Contract Agreement.

- (5) Notice of Award.
- (6) PART II – General Conditions.
- (7) PART III – Supplemental Conditions.
- (8) PART IV – Construction and Material Specifications.
- (9) PART V – Drawing No. TX-EN-0786 (cover page + sheets 1-6).
- (10) PART VI – Prevailing Wage Rates Determination.
- (11) Notice to Proceed.
- (12) Any modifications (change orders) duly delivered or supplemental agreements duly entered into after execution of this Contract Agreement.
- (13) Notices of Final Completion and Acceptance.

IN WITNESS WHEREOF, the parties hereto have executed this Contract Agreement the day and year first above written.

**OWNER****CONTRACTOR**

PLUM CREEK CONSERVATION DISTRICT

\_\_\_\_\_

By \_\_\_\_\_  
 JAMES A. HOLT, JR.  
 President, Plum Creek Conservation District

By \_\_\_\_\_  
 Title \_\_\_\_\_

(CORPORATE SEAL)

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Address for giving notices:  
 Plum Creek Conservation District  
 1101 West San Antonio Street  
 Lockhart, TX 78644

Address for giving notices

\_\_\_\_\_  
 \_\_\_\_\_

This action authorized at an official meeting  
 of the Plum Creek Conservation District on  
 \_\_\_\_\_[add date], Lockhart, Texas

License No. \_\_\_\_\_

Agent for service of process:

\_\_\_\_\_  
 DANIEL MEYER  
 PCCD Executive Manager

\_\_\_\_\_  
 (If CONTRACTOR is a corporation, attach  
 evidence of authority to sign.)

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**GENERAL CONDITIONS**  
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## PART II - GENERAL CONDITIONS

### ARTICLE 1 – DEFINITIONS

Terms used or referred to herein and elsewhere in the contract documents are defined as follows:

(a) Contracting Local Organization (CLO): The organization or agency awarding the contract. (CLO) is the Plum Creek Conservation District, Lockhart, Texas. Also referred to as District, Government, and Owner.

(b) Contracting Officer (CO): The person who is designated and authorized to enter into and administer this contract on behalf of the Contracting Local Organization or his/her duly appointed successor or alternate. No other person has authority to act for the Contracting Officer as stated in these General Conditions or elsewhere in the contract documents unless such person has been delegated authority by the Contracting Officer in writing. Also referred to as Owner's Representative.

(c) Engineer: The person or his/her representative who is responsible for determining that the Contractor's work conforms to the technical requirements as set forth in the drawings and specifications. Also called Project Engineer, Government Representative (GR), Contracting Officer's Representative (COR), and Contracting Officer's Technical Representative (COTR).

(d) Inspector: The person who performs daily inspection services for the CLO at the construction site and maintains accurate daily records of the work accomplished and the factors affecting its progress and quality. Also called NRCS Construction Inspector.

(e) USDA-NRCS. United States Department of Agriculture, Natural Resources Conservation Service – the Federal agency providing engineering and inspection services for this contract.

(f) Quality Assurance (QA). NRCS Construction Inspector (onsite).

(g) Quality Control (QC). Contractor's Construction Inspector (onsite).

### ARTICLE 2 – SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the worksite a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy either in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his/her own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as considered necessary, unless otherwise provided.

### ARTICLE 3 – CHANGES

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Contracting Local Organization-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation, or determination) from the Contracting Officer, which causes any such change, shall be treated as a change order under this article, provided that the Contractor gives the Contracting Officer written notice stating the date, circumstances, and source of the order and that the Contractor regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this article or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this article causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: *Provided, however,* That except for claims based on defective specifications, no claim for any change under (b) above

shall be allowed for any costs incurred more than 20 days before the Contractor gives written notice as therein required: *And provided further*, That in the case of defective specifications for which the Contracting Local Organization is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with such defective specifications.

(e) If the Contractor intends to assert a claim for an equitable adjustment under this article, Contractor must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the Contracting Officer a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the Contracting Officer. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

#### **ARTICLE 4 – DIFFERING SITE CONDITIONS**

(a) The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he/she finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the Contractor under this article shall be allowed unless the Contractor has given the notice required in (a) above; provided, however, the time prescribed therefor may be extended by the Contracting Officer.

(c) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

#### **ARTICLE 5 – TERMINATION FOR DEFAULT, DAMAGES FOR DELAY, TIME EXTENSIONS**

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Contracting Local Organization may, by written notice to the Contractor, terminate Contractor's right to proceed with the work or such part of the work as to which there has been delay. In such event the Contracting Local Organization may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, Contractor and his/her sureties shall be liable for any damage to the Contracting Local Organization resulting from his/her refusal or failure to complete the work within the specified time.

(b) If the Contracting Local Organization so terminates the Contractor's right to proceed, the resulting damage will consist of such actual damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Contracting Local Organization in completing the work.

(c) If the Contracting Local Organization does not so terminate the Contractor's right to proceed, the resulting damage will consist of such actual damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Contracting Local Organization in its contractual capacity, acts of another contractor in the performance of a contract with the Contracting Local Organization, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment under the contract), notifies the Contracting Officer in writing of the causes of delay.

(3) The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his/her judgment, such an extension is justified.

(4) Delays Due to COVID-19. PCCD will utilize OSHA, CDC, and Texas Department of State Health Services guidelines in determining if/when to issue a Suspend Work Order for situations caused by COVID-19. This would include, but is not limited to, any Emergency Management Declaration that affects construction work or if a person working at or visiting the worksite has tested positive. The length of the work suspension also will be based upon the recommendations in these guidelines.

(e) The rights and remedies of the Contracting Local Organization provided in this article are in addition to any other rights and remedies provided by law or under this contract.

(f) As used in paragraph (d)(1) of this article, the term "subcontractors and suppliers" means subcontractors and suppliers at any tier.

## **ARTICLE 6 – CLAIMS**

Any claim by the Contractor arising by virtue of this contract which is not disposed of by agreement shall be submitted in writing, together with any written and oral evidence in support thereof, to the Contracting Officer for decision. Before making a decision the Contracting Officer shall notify the Contractor that any additional written and/or oral evidence in support of the claim may be presented to the Contracting Officer within 30 days from receipt by the Contractor of such notification, or within such further period of time as may be granted by the Contracting Officer. The Contracting Officer shall make a decision in writing and mail or otherwise furnish a signed copy thereof to the Contractor. Pending the decision of the Contracting Officer the Contractor shall proceed diligently with the performance of this contract. *[See Also: PART III, Supplemental Conditions, Article 11 – Disputes/Alternative Dispute Resolution]*

## **ARTICLE 7 – PAYMENTS TO CONTRACTOR / INVOICING REQUIREMENTS**

(a) The Contracting Local Organization will pay the contract price as hereinafter provided and will secure review and approval of Contractor invoices by various agencies as required by funding requirements.

(b) The Contracting Local Organization will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his/her discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration and if the Contractor furnishes satisfactory evidence that he/she has acquired title to the material and that it will be utilized on the work covered by the contract. Payment for material delivered to the Contractor at locations other than the site will not be authorized.

(c) In making such progress payments, 10 percent of the estimated amount shall be retained until final completion and acceptance of the contract work. However, if the Contracting Officer at any time after 50 percent of the work has been completed finds satisfactory progress is being made, he/she may authorize any of the remaining progress payments to be made in full without retention of a percentage. Also, whenever the work is substantially complete, the Contracting Officer, if he/she finds the amount retained to be in excess of the amount adequate for the protection of the Contracting Local Organization, at his/her discretion may release to the Contractor all or a portion of any excess amount. The Contracting Local Organization shall not be obligated to pay any interest on the 10 percent retainage held on the first 50 percent of work completed. If the Contracting Local Organization holds any retainage on the remaining 50 percent of the work completed, the Contracting Local Organization shall pay interest on such retainage from the date the retainage is withheld to the date of payment to the Contractor. The interest rate to be paid on such retainage shall be the rate of interest paid by the Contracting Local Organization's depository bank on interest bearing accounts of similar amounts during the period of time interest accrues as provided herein. Furthermore, on completion and acceptance of each separate project, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Contracting Local Organization, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Contracting Local Organization to require the fulfillment of all of the terms of the contract.

(e) "Properly Executed Invoice" Requirements

(1) The original and one copy of each invoice are to be delivered to the Contracting Officer at the designated payment office.

(2) One copy of each invoice and complete documentation of computations and supporting data as required by PART IV, Construction Specification 7 are to be submitted to the Engineer.

(3) The following must be attached to the original invoice submitted to the Contracting Officer and to the copy submitted to the Engineer:

- (i) A complete remittance address along with vendor's tax identification number.
- (ii) Billing period.
- (iii) If requesting payment for materials delivered but not installed, Contractor will provide evidence of title to the materials and that it will be utilized on the work covered by the contract.
- (iv) Itemization of payment requests by Contract Item Number (CIN) as shown in PART I, Subpart C, Exhibit B—Bid Schedule, of the contract. Invoice will include the quantity performed that is being invoiced, the unit price (if applicable) and the CIN total price, and a sum total of amount of payment requested. Invoice will also include the cumulative quantities and amount by CIN.

(f) Designated Payment Office Contact Point. The contact point described below coordinates the issuance of payments under this contract:

Name: Karen Bassett  
 Title: Office Secretary  
 Address: Plum Creek Conservation District, 1101 W. San Antonio St., Lockhart, TX 76844  
 Telephone: (512) 398-2383 FAX: (512) 398-7776

(g) Final Payment Request

(1) The Contracting Local Organization shall pay the amount due the Contractor under this contract after--

- (i) Completion and acceptance of all work;
- (ii) Presentation of a properly executed invoice; and
- (iii) Presentation of release as indicated in (g)(3) below.

(2) The **FINAL** invoice billing shall include the following information:

- (i) All documentation called for in the contract documents, and
- (ii) Consent of the surety, if required, to final payment.
- (iii) Complete and legally effective releases or waivers (satisfactory to Contracting Local Organization) of all liens arising out of or filed in connection with the work. In lieu thereof and as approved by Contracting Local Organization, Contractor may furnish receipts or releases in full; an affidavit of Contractor that the releases and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the work for which Contracting Local Organization or his/her property might in any way be responsible, have been paid or otherwise satisfied. If any subcontractor, manufacturer, fabricator, supplier, or distributor fails to furnish a release of receipt in full, Contractor may furnish a bond or other collateral satisfactory to Contracting Local Organization to indemnify Contracting Local Organization against any lien.

(3) The **FINAL** invoice shall also contain the following **RELEASE OF CLAIMS** statement:

"I, [Name of Contractor], do hereby release the Plum Creek Conservation District, Lockhart, Texas, from any and all claims of any character whatsoever arising under and by virtue of contract number [Identify Contract] dated [Date] as amended, except as herein stated [LIST any Exceptions].

\_\_\_\_\_  
 (Date of Release)

\_\_\_\_\_  
 (Signature of Contractor)

(4) Releases may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under Article 25 of these General Conditions – Assignment, of this contract.

(h) This contract is subject to regulations incorporated in Texas Government Code, Subtitle F, Chapter 2251 – Payment for Goods and Services, regarding payment due dates, late payment interest, and claims and disputes. These regulations include, but are not limited to, payments made by Contracting Local Organization, Contractor, and subcontractors for any work, goods, services, etc. provided under this contract.

#### **ARTICLE 8 – MATERIAL AND WORKMANSHIP**

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his/her option, use any equipment, material, article, or process which in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his/her approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which Contractor contemplates incorporating in the work. When so directed, samples shall be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

#### **ARTICLE 9 – INSPECTION AND ACCEPTANCE**

(a) All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Contracting Local Organization at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Contracting Local Organization and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Contracting Local Organization shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Contracting Local Organization after acceptance of the completed work under the terms of paragraph (f) of this article, except as herein above provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Contracting Local Organization not to conform to the contract requirements, unless in the public interest the Contracting Local Organization consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Contracting Local Organization (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with Article 5, Termination for Default - Damages for Delay – Time Extensions, of these General Conditions.

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Contracting Local Organization shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Contracting Local Organization reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when reinspection or retest is necessitated by prior rejection.

(e) Should it be considered necessary or advisable by the Contracting Local Organization at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his/her subcontractors, Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, Contractor shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Contracting Local Organization shall be made as promptly as practicable after completion and inspection of all work required by this contract, or that portion of the work that the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Contracting Local Organization's rights under any warranty or guarantee.

#### **ARTICLE 10 – SUPERINTENDENCE BY CONTRACTOR**

The Contractor, at all times during performance and until the work is completed and accepted, shall give his/her personal superintendence to the work or have on the work a competent superintendent, satisfactory to the Contracting Officer and with authority to act for the Contractor.

#### **ARTICLE 11 – PERMITS AND RESPONSIBILITIES**

The Contractor shall, without additional expense to the Contracting Local Organization, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. Contractor shall be similarly responsible for all damages to persons or property that occur as a result of his/her fault or negligence. He/she shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He/she shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted. Special Note: If a County permit is required, prior to issuing Notice to Proceed, PCCD will secure (and provide copy to Contractor) the Caldwell County permit to allow construction and use of temporary construction entrance as specified in Part IV, Construction Specification 8, Section 4.a.(2)(a).

#### **ARTICLE 12 – CONDITIONS AFFECTING THE WORK**

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve Contractor from responsibility for successfully performing the work without additional expense to the Contracting Local Organization. The Contracting Local Organization assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Contracting Local Organization are expressly stated in the contract.

#### **ARTICLE 13 – OTHER CONTRACTS**

The Contracting Local Organization may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Contracting Local Organization employees and carefully fit his/her own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Contracting Local Organization employees.

#### **ARTICLE 14 – PATENT INDEMNITY**

Except as otherwise provided, the Contractor agrees to indemnify the Contracting Local Organization and its officers, agents and employees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise

withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Contracting Local Organization of supplies furnished or work performed hereunder.

#### **ARTICLE 15 – ADDITIONAL BOND SECURITY**

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Contracting Local Organization, or if any such surety fails to furnish reports as to its financial condition from time to time as requested by the Contracting Local Organization, or if the contract price is increased to such an extent that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Contracting Local Organization and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

#### **ARTICLE 16 – REAL PROPERTY RIGHTS**

(a) Adequate real property rights needed in order to perform the work under this contract have been acquired by or on behalf of the Contracting Local Organization. The right to enter, remove, or otherwise make use of adjacent property, roads, utility lines, fences, and other improvements not included within the real property rights provided shall be the sole responsibility of the Contractor.

(b) Where ingress and egress is not defined on the drawings, the Contracting Officer shall designate the right-of-way to be used.

(c) The Contractor shall obtain owner's advance written approval if he/she plans to enter, remove, or otherwise make use of adjacent property, roads, utility lines, fences, and other improvements not included within the real property rights provided by the Contracting Local Organization. A copy of the written approval must be submitted to the Contracting Officer. The Contractor is responsible for any and all expenses associated with these items. Any Contractor-proposed changes to items designated or shown in the plans and specifications (e.g., site entrance, stockpile area, campsite, etc.) must be approved by the Contracting Officer at his/her sole discretion.

#### **ARTICLE 17 – RECORDS OF TEST PITS AND BORINGS**

The Contracting Local Organization does not represent that the available records show completely the existing conditions and does not guarantee any interpretation of these records. The Contractor assumes all responsibility for deductions and conclusions as to the nature of rock and other materials to be excavated, the difficulties of making and maintaining the required excavations and of doing other work affected by the geology of the site of the work, and for the final preparation of the foundations for the spillway, dikes, and other structures.

#### **ARTICLE 18 – MATERIALS TO BE FURNISHED BY THE CONTRACTOR**

(a) Unless otherwise specified in this contract, the Contractor shall furnish all materials required for the completion of the contract.

(b) Unless otherwise waived in writing by the Contracting Officer, the Contractor shall furnish the Contracting Local Organization with certifications dated and signed by the manufacturer and/or supplier to the effect that the items listed therein meet the requirements of this contract. Such certifications shall be furnished prior to the use of the material in any part of the construction and shall identify the project on which the material is to be used.

#### **ARTICLE 19 – WATER**

Unless otherwise specified in this contract, the Contractor shall provide and maintain at his/her own expense an adequate supply of water suitable for purposes of performing the work.

#### **ARTICLE 20 – WORKWEEK—CONSTRUCTION SCHEDULE**

(a) Unless furnished prior to contract award, the Contractor shall, prior to commencement of work, submit to the Contracting Officer for approval: (1) a construction schedule showing the order in which he/she proposes to carry on the work indicating the periods during which he/she will perform work on each item listed in the bid schedule; and (2) the hours and days in which he/she proposes to carry on the work.

(b) If, in the opinion of the Contracting Officer, the Contractor falls behind the approved construction schedule, the Contractor shall take such steps as may be necessary to improve his/her process and the

Contracting Officer may require him/her to either increase the number of shifts, days or hours of work, or the amount of construction plant, or all of them, and to submit for approval such revised construction schedule as may be deemed necessary to show the manner in which the agreed rate of progress will be regained, all without additional cost to the Contracting Local Organization. If the Contractor fails to submit a revised construction schedule within the time specified by the Contracting Officer, the Contracting Officer may withhold approval of progress payments and/or take such other actions as provided in this contract until such time as the Contractor submits the required construction schedule.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this article shall be grounds for determination by the Contracting Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with Article 5 of the General Conditions.

(d) The maximum workweek that will be approved is:

- Monday through Saturday, up to 10 hours per day (maximum 60 hours per week).
- Work is permitted during "daylight" hours only.

(e) All work under this contract except minor items of work of an emergency, protective, or maintenance nature will be suspended for the periods listed below. These days are included in the original contract performance time: President's Day: February 15, 2021

(f) If the contract performance time is extended after the contract is awarded due to weather and its effects, or for other reasons, all work (except that of an emergency, protective, or maintenance nature) will be suspended on days listed below and the suspension days will be added to the performance time: Memorial Day (May 31, 2021)

#### **ARTICLE 21 – SUBCONTRACTORS**

(a) Work shall not be *subcontracted* in whole or in part without the prior written approval of the Contracting Officer. The request shall be in writing with the name and qualifications of the proposed subcontractor and a description of the work to be done.

(b) If at any time the Contracting Officer determines that any subcontractor is incompetent or undesirable, he/she shall notify the Contractor accordingly and the Contractor shall take immediate steps for cancellation of the subcontract.

(c) Subcontracting by subcontractors shall be subject to the above requirements.

(d) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the Contracting Local Organization.

(e) Any *subcontract* awarded under this contract will not be awarded to any official of the Plum Creek Conservation District, Texas State Soil and Water Conservation Board, Hays County Soil and Water Conservation District, or Caldwell-Travis Soil and Water Conservation District (all in the State of Texas), or to any firm in which any official or any member of such official's immediate family of these entities has direct or indirect interest in the pecuniary profits or contracts of such firms.

#### **ARTICLE 22 – SURVEYS**

*See PART IV, Construction Specification 7 – Construction Surveys.*

#### **ARTICLE 23 – SUSPENSION OF WORK**

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as he/she may determine to be appropriate for the convenience of the Contracting Local Organization. See General Conditions Article 5(d)(4) regarding work suspensions due to COVID-19.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Contracting Officer in the administration of this contract, or by his/her failure to act within the time specified in this contract (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this article for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any



other cause including the fault or negligence of the Contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this contract.

(c) No claim under this article shall be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the contract.

#### **ARTICLE 24 – CLEANUP WORK**

(a) During performance of the work the Contractor shall keep the work site, areas adjacent to the work site and access roads in an orderly condition, free and clear from debris and discarded materials. Care shall be taken to prevent spillage when hauling is being done. Any spillage or debris resulting from the Contractor's operations shall be immediately removed.

(b) Upon completion of the work the Contractor shall remove from the work site, areas adjacent to the work site and access roads: all plant, buildings, debris, unused materials, concrete forms and other like material belonging to Contractor or used under his/her direction during the construction. Contractor shall grade all access roads, other than public, removing wheel tracks and smoothing up such roads.

#### **ARTICLE 25 – ASSIGNMENT**

The Contractor shall not assign in whole or in part this contract without the prior written consent of the Contracting Local Organization. The Contractor shall not assign any moneys due or to become due to him/her under this contract without the prior written consent of the Contracting Local Organization.

#### **ARTICLE 26 – WEATHER**

(a) The Contracting Officer may order suspension of the work in whole or in part, commencing with the day after receipt of the Notice to Proceed by the Contractor, due to weather or the effects of weather at the site, for such time as he/she considers it unfavorable for satisfactory prosecution of the work.

(b) When the Contracting Officer orders suspension under (a) of this article, the contract completion date shall be extended a full calendar day for each calendar day during suspension of the work if:

(1) All work is suspended except minor items as may be designated in this contract or as approved during the suspension period by the Contracting Officer at his/her sole discretion on a case-by-case basis (work of an emergency, protective or maintenance nature may be performed at any time); and

(2) The hours lost in any one workday of the authorized workweek through suspension equal one-half or more of the hours of an authorized workday.

(c) If the Contracting Officer orders suspension of work as provided in (b) of this article and the hours lost in the workday immediately preceding a nonworkday equal one-half or more of the hours in an authorized workday, the contract completion date shall be extended a full calendar day for each nonworkday during suspension of the work.

(d) When the Contracting Officer orders any suspension of the work under this article, the Contractor shall not be entitled to any cost or damages resulting from such suspension.

(e) When the contract completion date is extended under this article, the contract shall be modified in writing accordingly.

#### **ARTICLE 27 – NONCOMPLIANCE WITH CONTRACT REQUIREMENTS**

(a) The Contracting Officer may order suspension of the work in whole or in part for such time as he/she deems necessary because of the failure of the Contractor to comply with any of the requirements of this contract, and the contract completion date shall not be extended on account of any such suspension of the work.

(b) When the Contracting Officer orders any suspension of the work under (a) of this article, the Contractor shall not be entitled to any costs or damages resulting from such suspension.

(c) The rights and remedies of the Contracting Local Organization provided in this article are in addition to any other rights and remedies provided by law or under this contract.

**ARTICLE 28 – QUANTITY VARIATIONS**

(a) Where the quantity of work shown for an item in the bid schedule, including any modification thereof, is estimated, no adjustment of the contract price nor of the performance time shall be made for overruns or underruns which are within 25 percent of the estimated quantity of any such item.

(b) For overruns of more than 25 percent, the Contracting Officer shall re-estimate the quantity for the item, establish an equitable contract price for the overrun of more than 25 percent, adjust contract performance time equitably, and modify the contract in writing accordingly; this article to thereafter be applicable to the total re-estimated item quantity.

(c) For underruns of more than 25 percent, the Contracting Officer shall determine the quantity for the item, establish an equitable contract price therefor, adjust contract performance time equitably, and modify the contract in writing accordingly.

**ARTICLE 29 – FEDERAL, STATE, AND LOCAL TAXES**

(a) Except as otherwise provided, contract unit prices shall include all applicable Federal, State, and local taxes.

(b) Texas State, County, and Municipal Sales and Use Tax. (1) The Contracting Local Organization is an exempt entity per §151.309(5) of the Limited Sales, Excise, and Use Tax Act (Texas Tax Code Chapter 151 – Limited Sales, Excise, and Use Tax) and will issue the Contractor an affidavit as proof of this exemption. This contract is a “lump-sum contract” as defined by Texas Administrative Code, Title 34, Part 1, Chapter 3, Subchapter O – State Sales and Use Tax, Rule §3.291 (Contractors).

(2) When purchased by the Contractor for use in performance of this contract, certain tangible personal property and taxable services are exempt from State Sales and Use Tax under Texas Tax Code §151.311, and in most cases are also exempt from County and Municipal Sales and Use Tax. Contractor is subject to tax responsibilities in Texas Administrative Code Rule §3.291, section (c), and is responsible to issue a properly completed exemption certificate to a supplier in accordance with section (c)(5).

(3) Contractor is solely responsible to be adequately familiar with and comply with all requirements of Texas Tax Code, Texas Administrative Codes, and any other State/local regulations when claiming tax exemption for purchase of items for use in the performance of this contract.

(4) “Contractor” as used in this paragraph (b) includes subcontractors as defined in Texas Administrative Code Rule §3.291, section (a)(3).

**ARTICLE 30 – SHOP DRAWINGS**

(a) The term “shop drawings” includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(b) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate his/her approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor’s approval may be returned for resubmission. The Contracting Officer will indicate his/her approval or disapproval of the shop drawings and if not approved as submitted shall indicate his/her reasons therefor. Any work done prior to such approval shall be at the Contractor’s risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (c) below.

(c) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation(s), he/she shall issue an appropriate contract modification, except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued.

**ARTICLE 31 – TERMINATION FOR CONVENIENCE OF THE CONTRACTING LOCAL ORGANIZATION**

The Contracting Officer, by written notice, may terminate this contract in whole or in part, when it is in the interest of the Contracting Local Organization. If this contract is so terminated, the Contractor shall be compensated for all necessary and reasonable direct costs of performing the work actually accomplished. In addition, the Contractor shall be paid 10 percent for overhead expenses based on said direct costs, and 5

percent for profit based on the total of direct costs and overhead costs. From this will be deducted any payments or reimbursements previously paid and salvage value of materials paid for by the Contracting Local Organization but not used. Provided however, no profit shall be paid if the Contractor would have incurred a loss had the entire contract been completed.

#### **ARTICLE 32 – PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

#### **ARTICLE 33 – OPERATIONS AND STORAGE AREAS**

(a) The Contractor shall confine all operations (including storage of materials) on Contracting Local Organization premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Contracting Local Organization, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Contracting Local Organization. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

#### **ARTICLE 34 – USE AND POSSESSION PRIOR TO COMPLETION**

(a) The Contracting Local Organization shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Contracting Local Organization intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Contracting Local Organization's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Contracting Local Organization has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Contracting Local Organization's possession or use, notwithstanding the terms of Article 11 (Permits and Responsibilities) of these General Conditions. If prior possession or use by the Contracting Local Organization delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

**ARTICLE 35 – LAYOUT OF WORK**

See *PART IV, Construction Specification 7 – Construction Surveys*.

**ARTICLE 36 – PRECONSTRUCTION CONFERENCE**

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

**ARTICLE 37 – CONTRACTOR RECORDS**

(a) Access to Records. Contractor shall provide access by Contracting Local Organization, Texas State Soil and Water Conservation Board, or Texas State Auditor's Office, or any of their duly authorized representatives, to any books, documents, papers, and records of the Contractor which are directly pertinent to the contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) Retention of Records. Contractor shall retain all records requiring access per paragraph (a) above for seven (7) years after the Contracting Local Organization makes final payment under the contract and all other pending matters between the Contracting Local Organization and the Contractor under the contract are closed.

**ARTICLE 38 – ARCHEOLOGICAL OR HISTORIC SITES**

If a previously unidentified archeological or historic site(s) is encountered, the Contractor shall discontinue work in the general area of the site(s) and notify the Contracting Officer immediately.

**ARTICLE 39 – CONTROL OF EROSION, SEDIMENTATION, AND POLLUTION**

(a) Operations shall be scheduled and conducted to minimize erosion of soils and to prevent silting and muddying of streams, rivers, irrigation systems, and impoundments (lakes, reservoirs, etc.).

(b) Pollutants such as fuels, lubricants, bitumens, raw sewage, and other harmful materials shall not be discharged on the ground; into or nearby rivers, streams, or impoundments; or into natural or man-made channels. Wash water or waste from concrete or aggregate operations shall not be allowed to enter live streams prior to treatment by filtration, settling, or other means sufficient to reduce the sediment content to not more than that of the stream into which it is discharged.

(c) Mechanized equipment shall not be operated in flowing streams without written approval by the Contracting Officer.

**ARTICLE 40 – [RESERVED]****ARTICLE 41 – ACCIDENT PREVENTION AND SAFETY**

(a) The Contractor shall provide and maintain work environments and procedures which will:

(1) Safeguard the public and Contracting Local Organization personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) Avoid interruptions of Contracting Local Organization operations and delays in project completion dates; and

(3) Control costs in the performance of this contract.

(b) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Contracting Local Organization personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this article.

(c) The Contractor shall insert this article, including this paragraph (c), with appropriate changes in the designation of the parties, in subcontracts.

(d) Before commencing the work, the Contractor shall--

(1) Submit a written proposed plan for implementing this article. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in contract work performance and a plan for controlling these hazards; and

(2) Meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

(e) In the event there is a conflict between the requirements contained in the specifications, Contractor's safety program, and U.S. Department of Labor construction safety and health standards, the more stringent requirement will prevail.

(f) Contractor shall comply with OSHA (Occupational Safety and Health Administration) Parts 1910 and 1926 Construction Industry Standards and Interpretations, and with the supplement below:

#### **Supplement to OSHA Parts 1910 and 1926 Construction Industry Standards and Interpretations**

Requests for variances or waiver from this supplement are to be made to the Contracting Officer in writing supported by evidence that every reasonable effort has been made to comply with the contractual requirements. A written request for a waiver or a variance shall include--

- (1) Specific reference to the provision or standard in question;
- (2) An explanation as to why the waiver is considered justified; and
- (3) The Contractor's proposed alternative, including technical drawings, materials, or equipment specifications needed to enable Contracting Officer to render a decision.

No waiver or variance will be approved if it endangers any person. The Contractor shall not proceed under any requested revision of a provision until the Contracting Officer has given written approval. The Contractor is to hold and save harmless the United States Department of Agriculture, Natural Resources Conservation Service, and the Contracting Local Organization free from any claims or causes of action whatsoever resulting from the Contractor or Subcontractors proceeding under a waiver or approved variance.

Copies of OSHA Parts 1910 and 1926, Construction Industry Standards and Interpretations, may be obtained from:

Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402

#### **A. GENERAL CONTRACTOR REQUIREMENTS**

(1) **SAFETY PROGRAM.** Each Contractor is to demonstrate that he or she has facilities for conducting a safety program commensurate with the work under contract. The Contractor is to submit in writing a proposed comprehensive safety program to the Contracting Officer for approval before the start of operations. The program is to specifically state what provisions the Contractor proposes to take for the health and safety of all employees, including subcontractors and rental equipment operators. The program shall be site specific and provide details relevant to the work to be done, the hazards associated with the work, and the actions that will be necessary to minimize the identified hazards.

(2) **PRECONSTRUCTION SAFETY MEETING.** Representatives for the Contractor are to meet with the Contracting Officer or the CO's Representative before commencing work to discuss the safety program and the implementation of all health and safety standards pertinent to the work under this contract.

(3) **JOINT SAFETY POLICY COMMITTEE.** The Contractor or designated on-site representative is to participate in monthly meetings of a joint Safety Policy Committee, composed of Contracting Officer, CLO Engineer and/or Inspector, and Contractor supervisory personnel. At these meetings the Contractor's

project manager and the Contracting Officer will review the effectiveness of the Contractor's safety effort, resolve current health and safety problems, and coordinate safety activities for upcoming work.

(4) **SAFETY PERSONNEL.** Each Contractor is to designate a competent supervisory employee satisfactory to Contracting Officer to administer the safety program.

(5) **SAFETY MEETINGS.** A minimum of one "on-the-job" or "toolbox" safety meeting is to be conducted each week by all field supervisors or foremen and attended by mechanics and all personnel at the jobsite. The Contractor is to also conduct regularly scheduled supervisory safety meetings at least monthly for all levels of job supervision.

(6) **SAFETY INSPECTION.** The Contractor shall perform frequent and regular safety inspections of the jobsite, materials, and equipment, and shall correct deficiencies.

(7) **FIRST AID TRAINING.** Every Contractor foreman's work crew must include an employee who has a current first aid certificate from the Mine Safety and Health Administration, American Red Cross, or other state-approved organization.

(8) **REPORTS.** Each contractor is to maintain an accurate record of all job-related deaths, diseases, or disabling injuries. The records shall be maintained in a manner approved by the Contracting Officer. A copy of all reports is to be provided to the Contracting Officer. All fatal or serious injuries are to be reported immediately to the Contracting Officer, and every assistance is to be given in the investigation of the incident, including submission of a comprehensive narrative report to the Contracting Officer. Other occurrences with serious accident potential, such as equipment failures, slides, and cave-ins, must also be reported immediately. The Contractor is to assist and cooperate fully with the Contracting Officer in conducting accident investigations. The Contracting Officer is to be furnished all information and data pertinent to investigation of an accident.

(9) **CERTIFICATION OF INSURANCE.** Contractors are to provide the Contracting Officer with certificates of insurance before the start of operations indicating full compliance with State Worker's Compensation statutes, as well as other certificates of insurance required under the contract. *[See PART III – Supplemental Conditions, Articles 1, 2, and 3.]*

## **B. FIRST AID AND MEDICAL FACILITIES**

(1) **FIRST AID KITS.** A 16-unit first aid kit approved by the American Red Cross is to be provided at accessible, well-identified, locations at the ratio of at least 1 kit for each 25 employees. The first aid kits are to be moistureproof and dusttight, and the contents of the kits are to be replenished as used or as they become ineffective or outdated.

(2) **EMERGENCY FIRST AID.** At least one employee certified to administer emergency first aid must be available on each shift and duly designated by the Contractor to care for injured employees. The names of the certified employees shall be posted at the jobsite.

(3) **COMMUNICATION AND TRANSPORTATION.** Prior to the start of work, the Contractor is to make necessary arrangements for prompt and dependable communications, transportation, and medical care for injured employees. At least one stretcher and two blankets shall be readily available for transporting injured employees.

(4) **FIRST AID AND MEDICAL REPORTS.** The Contractor is to maintain a record system for first aid and medical treatment on the jobsite. Such records are to be readily available to the Contracting Officer and are to include--

(a) A daily treatment log listing chronologically all persons treated for occupational injuries and illnesses;

(b) Cumulative record of injury for each individual;

(c) Monthly statistical records of occupational injuries, classified by type and nature of injury; and

(d) Required records for worker's compensation.

(5) **SIGNS AND DIRECTIONAL MARKINGS.** Adequate identification and directional markers are to be provided to readily denote the location of all first aid stations.

(6) **EMERGENCY LISTING.** A listing of telephone numbers and addresses of doctor, rescue squad, hospital, police, and fire departments is to be provided at all first aid locations.

### **C. PHYSICAL QUALIFICATIONS OF EMPLOYEES**

(1) **GENERAL REQUIREMENTS.** Persons employed throughout the contract are to be physically qualified to perform their assigned duties. Employees must not knowingly be permitted or required to work while their ability or alertness is impaired by fatigue, illness, or any other reason that may jeopardize themselves or others.

(2) **HOIST OPERATORS.** Operators of cranes, cableways, and other hoisting equipment shall be examined annually by a physician and provided with a certification stating that they are physically qualified to safely operate hoisting equipment. The Contractor is to submit a copy of each certification to the Contracting Officer.

(3) **HEAVY EQUIPMENT OPERATORS.** It is recommended that operators of trucks and heavy equipment be given physical examinations to determine if they are physically qualified to perform their assigned work without endangering themselves or others.

(4) **MOTOR VEHICLE OPERATORS.** Operators of motor vehicles engaged primarily in the transportation of personnel are to be 18 years of age or older and have a valid state operator's permit or license for the equipment being operated. The operators must have passed a physical exam administered by a licensed physician within the past year showing that they are qualified to operate vehicles safely.

### **D. PERSONAL PROTECTIVE EQUIPMENT**

(1) **HARD HAT AREAS.** The entire jobsite, with the exception of offices, shall be considered a hard hat area. All persons entering the area are, without exception, required to wear hard hats. The Contractor shall provide hard hats for visitors entering hard hat areas.

(2) **LABELS.** Hard hats shall bear a manufacturer's label indicating design compliance with the appropriate ANSI (American National Standards Institute) standard.

(3) **POSTING.**

(a) Signs at least 3 by 4 feet worded as follows with red letters (minimum 6 inches high) and white background shall be erected at access points to designated hard hat areas:

CONSTRUCTION AREA - HARD HATS  
REQUIRED BEYOND THIS POINT

(b) These signs are to be furnished and installed by the Contractor at entries to shops, service yards, and job access points.

(4) **SAFETY GOGGLES (DRILLERS). DRILLERS AND HELPERS.** Drillers and helpers operating pneumatic rock drills must wear protective safety goggles.

### **E. MACHINERY AND MECHANIZED EQUIPMENT**

(1) **SAFE CONDITION.** Before any machinery or mechanized equipment is initially used on the job, it must be inspected and tested by qualified personnel and determined to be in safe operating condition and appropriate for the intended use. Operators shall inspect their equipment prior to the beginning of each shift. Any deficiencies or defects shall be corrected prior to using the equipment. Safety equipment, such as seatbelts, installed on machinery is to be used by equipment operators.

(2) **TAGGING AND LOCKING.** The controls of power-driven equipment under repair are to be locked. An effective lockout and tagging procedure is to be established, prescribing specific responsibilities and safety procedures to be followed by the person or persons performing repair work. Mixer barrels are to be securely locked out before permitting employees to enter them for cleaning or repair.

### (3) HAUL ROADS FOR EQUIPMENT

(a) ROAD MAINTENANCE. The Contractor shall maintain all roadways, including haul roads and access roads, in a safe condition so as to eliminate or control dust and ice hazards. Wherever dust is a hazard, adequate dust-laying equipment shall be available at the jobsite and utilized to control the dust.

(b) SINGLE-LANE HAUL ROADS. Single-lane haul roads with two-way traffic shall have adequate turnouts. Where turnouts are not practical, a traffic control system shall be provided to prevent accidents.

(c) TWO-WAY HAUL ROADS. On two-way haul roads, arrangements are to be such that vehicles travel on the right side wherever possible. Signs and traffic control devices are to be employed to indicate clearly any variations from a right-hand traffic pattern. The road shall be wide enough to permit safe passage of opposing traffic, considering the type of hauling equipment used.

(d) DESIGN AND CONSTRUCTION OF HAUL ROADS. Haul road design criteria and drawings, if requested by the Contracting Officer, are to be submitted for approval prior to road construction. Sustained grades shall not exceed 12 percent and all curves shall have open-sight line with as great a radius as practical. All roads shall be posted with curve signs and maximum speed limits that will permit the equipment to be stopped within one-half the minimum sight distance.

(e) OPERATORS. Machinery and mechanized equipment shall be operated only by authorized qualified persons.

(f) RIDING ON EQUIPMENT. Riding on equipment by unauthorized personnel is prohibited. Seating and safety belts shall be provided for the operator and all passengers.

(g) GETTING ON OR OFF EQUIPMENT. Getting on or off equipment while the equipment is in motion is prohibited.

(h) HOURS OF OPERATION. Except in emergencies, an equipment operator shall not operate any mobile or hoisting equipment for more than 12 hours without an 8-hour rest interval away from the job.

### (4) POWER CRANES AND HOISTS (TRUCK CRANES, CRAWLER CRANES, TOWER CRANES, GANTRY CRANES, HAMMERHEAD CRANES, DERRICKS, CABLEWAYS, AND HOISTS)

(a) PERFORMANCE TEST. Before initial on-site operation, at 12-month intervals, and after major repairs or modification, power cranes, derricks, cableways, and hoists must satisfactorily complete a performance test to demonstrate the equipment's ability to safely handle and maneuver the rated loads. The tests shall be conducted in the presence of a representative of the Contracting Officer (the Engineer and/or Inspector). Test data shall be recorded and a copy furnished to the Contracting Officer.

(b) PERFORMANCE TEST--POWER CRANES (CRAWLER MOUNTED, TRUCK MOUNTED, AND WHEEL MOUNTED). The performance test is to be carried out as per ANSI requirements. The test is to consist of raising, lowering and braking the load and rotating the test load through 360° at the specified boom angle or radius. Cranes equipped with jibs or boom tip extensions are to be tested using both the main boom and the jib, with an appropriate test load in each case.

(c) PERFORMANCE TEST--DERRICKS, GANTRY CRANES, TOWER CRANES, CABLEWAYS, AND HOISTS, INCLUDING OVERHEAD CRANES. This equipment is to be performance tested as per with ANSI requirements.

(d) BOOM ANGLE INDICATOR. Power cranes (including draglines) with booms capable of moving in the vertical plane shall be provided with a boom angle indicator in good working order.

(e) CRANE TEST CERTIFICATION. The performance test required by (4)(b) and (c) is fulfilled if the Contractor provides the Contracting Officer a copy of the certificate of inspection made within the past 12 months by a qualified person or by a government or private agency satisfactory to the Contracting Officer.



(f) **POSTING FOR HIGH VOLTAGE LINES.** A notice of the 10-foot (or greater) clearance required by OSHA 1926.550, Subpart N, shall be posted in the operator's cab of cranes, shovels, boom-type concrete pumps, backhoes, and related equipment.

(g) **BOOM STOPS.** Cranes or derricks with cable-supported booms, except draglines, shall have a device attached between the gantry of the A-frame and the boom chords to limit the elevation of the boom. The device shall control the vertical motions of the boom with increasing resistance from 83° or less, until completely stopping the boom at not over 87° above horizontal.

(h) **SAFETY HOOKS.** Hooks used in hoisting personnel or hoisting loads over construction personnel or in the immediate vicinity of construction personnel shall be forged steel equipped with safety keepers. When shackles are used under these conditions, they shall be of the locking type or have the pin secured to prohibit turning.

**(5) ROLLOVER PROTECTIVE STRUCTURES (ROPS)**

(a) **ROLLOVER PROTECTIVE STRUCTURES.** OSHA 1926, Subpart W, Overhead Protection, Sections 1001 and 1002 are applicable regardless of the year in which the equipment was manufactured and regardless of the struck capacity of the equipment.

(b) **EQUIPMENT REQUIRING ROPS.** The requirement for ROPS meeting (5)(a) above applies to crawler and rubber-tired tractors such as dozers, push-and-pull tractors, winch tractors, tractors with backhoes, and mowers; off-highway, self-propelled, pneumatic-tired earthmovers, including scrapers, motor graders and loaders; and rollers, compactors, water tankers (excluding trucks with cabs). These requirements shall also apply to agricultural and industrial tractors and similar equipment.

(c) **EQUIPMENT REQUIRING SEATBELTS.** The requirements for seatbelts as specified in OSHA Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations, Section 1926.602 shall also apply to self-propelled compactors and rollers, and rubber-tired skid-steer equipment.

**F. LADDERS AND SCAFFOLDING**

(1) **LADDERS.** OSHA 1926, Subpart L - Section 450. Ladders shall be used as work platforms only when use of small hand tools or handling of light material is involved. No work requiring lifting of heavy materials or substantial exertion shall be done from ladders.

(2) **SCAFFOLDING.** OSHA 1926, Subpart L - Section 451. Scaffolds, platforms or temporary floors shall be provided for all work except that which can be done safely from the ground or similar footing.

(3) **SAFETY BELTS, LIFELINE, AND LANYARDS.** OSHA 1926, Subpart E, Section 104. Lifelines, safety belts and lanyards independently attached or attended, shall be used when performing such work as the following when the requirements of F(1) or (2) above cannot be met.

(a) Work on stored material in hoppers, bins, silos, tanks, or other confined spaces.

(b) Work on hazardous slopes, structural steel, or poles; erection or dismantling of safety nets, tying reinforcing bars; and work from Boatswain's chairs, swinging scaffolds, or other unguarded locations at elevations greater than 6 feet.

(c) Work on skips and platforms used in shafts by crews when the skip or cage does not block the opening to within 1 foot of the sides of the shaft, unless cages are provided.

## PART III SUPPLEMENTAL CONDITIONS

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## PART III - SUPPLEMENTAL CONDITIONS

### ARTICLE 1 – TYPES AND LIMITS OF INSURANCE

Satisfactory certificates of insurance shall be filed with Contracting Local Organization prior to commencement of any work on this contract. Insurance requirements stated below do not establish limits of the Contractor's liability.

(a) Workmen's Compensation and Employer's Liability Insurance

(1) Contractor shall provide workmen's compensation and employee's liability insurance at own expense. This insurance shall protect Contractor against all claims under applicable state workmen's compensation laws. Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workmen's compensation law.

(2) The liability limits shall be not less than:

Workmen's Compensation	Statutory
Employer's Liability	\$500,000

(b) Comprehensive Automobile Liability Insurance

(1) Contractor shall provide comprehensive automobile liability insurance at own expense. This insurance shall be written in comprehensive form and shall protect Contractor against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired.

(2) Policy shall list CLO as additional named insured per Article 1(f).

(3) The liability limits shall be not less than:

Bodily injury	\$250,000 each person \$500,000 each occurrence
Property damage	\$250,000 each occurrence

(c) Comprehensive General Liability Insurance

(1) Contractor shall provide comprehensive general liability insurance at own expense. This insurance shall be written in comprehensive form and shall protect Contractor against all claims arising from injuries to persons other than his/her employees or damage to property of Contracting Local Organization or others arising out of any act or omission of Contractor or his/her agents, employees, or subcontractors. The policy shall also include protection against claims insured by usual personal injury liability coverage, such as a "protective liability" endorsement to insure the contractual liability assumed by Contractor.

(2) To the extent that Contractor's work, or work under his/her direction, may require blasting, explosive conditions, or underground operations, the comprehensive general liability coverage shall contain no exclusion relative to blasting, explosion, collapse of building, or damage to underground property.

(3) Policy shall list CLO as additional named insured per Article 1(f).

(4) The liability limits shall be not less than:

Bodily injury	\$500,000 each occurrence
Property damage	\$250,000 each occurrence
Aggregate	\$1 million

(d) Umbrella Liability Policy. If aggregate of Comprehensive General Liability Insurance in (c)(4) above does not equal or exceed \$1 million, the Contractor shall provide umbrella liability policy at its own expense. This insurance shall protect Contractor against all claims in excess of the limits provided under the workmen's compensation and employer's liability, comprehensive automobile liability, and general liability policies. The liability limits of the umbrella liability policy shall not be less than \$1,000,000. The policy shall list CLO as additional named insured per Article 1(f).

(e) Policy Cancellation. Each policy shall contain a provision that the coverage afforded will not be canceled or materially changed until at least 30 days prior written notice has been given to the Contracting Local Organization or Contracting Officer.

(f) Additional Named Insured. The Contracting Local Organization (CLO) shall be listed as an additional named insured on Comprehensive Automobile Liability, Comprehensive General Liability, and Umbrella Liability policies

(g) Waiver of Subrogation. All policies of insurance shall waive all rights of subrogation against the Contracting Local Organization, its officers, employees and agents.

## **ARTICLE 2 – SETTLEMENT OF INSURANCE CLAIMS**

Losses insured under policies that include Contracting Local Organization, as a named insured, shall be adjusted with Contracting Local Organization and made payable to Contracting Local Organization as trustee for the insureds, as their interests may appear.

## **ARTICLE 3 – WORKERS' COMPENSATION INSURANCE COVERAGE**

Contractor shall provide worker's compensation insurance coverage as specified below at own expense.

(a) Definitions. (1) Certificate of coverage ("certificate")—A copy of a certificate of insurance, a certificate of authority to self-insure issued by the TX Department of Insurance, Division of Workers' Compensation, or a coverage agreement (DWC Form-81, DWC Form-82, DWC Form-83, or DWC Form-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

(2) Duration of the project—Includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the Contracting Local Organization.

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

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

(c) The Contractor must provide a certificate of coverage to the Contracting Local Organization prior to being awarded the contract.

(d) If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Contracting Local Organization showing that coverage has been extended.

(e) The Contractor shall obtain from each person providing services on a project, and provide to the Contracting Local Organization:

(1) A certificate of coverage, prior to that person beginning work on the project, so the Contracting Local Organization will have on file certificates of coverage showing coverage for all persons providing services on the project, and

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

(f) The Contractor shall retain all required certificates of coverage for the duration of the project and then in accordance with PART II, General Conditions, Article 37, Contractor Records.

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

(h) The Contractor shall post on each project site a notice [see paragraph (l) of this Article], in the text, form and manner prescribed by the Texas Department of Insurance, Division 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.

(i) The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011 (44) for all of its employees providing services on the project, for the duration of the project;

(2) Provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) Provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) Obtain from each other person with whom it contracts, and provide to the Contractor:

- (i) a certificate of coverage, prior to the other person beginning work on the project; and
- (ii) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) Retain all required certificates of coverage on file for the duration of the project and then in accordance with PART II – General Conditions, Article 37 – Contractor Records;

(6) Notify the Contracting Local Organization in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(7) Contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

(j) By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Contracting Local Organization that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the TX Department of Insurance, Division of Workers' Compensation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

(k) The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Contracting Local Organization to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Contracting Local Organization.

(l) Posting of Notice: "REQUIRED WORKER'S COMPENSATION COVERAGE"

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

Call the Division of Workers' Compensation at 1-800-252-7031 or access the division's website at **[www.tdi.texas.gov/wc/indexwc.html](http://www.tdi.texas.gov/wc/indexwc.html)** to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

**ARTICLE 4 – POST-AWARD INFORMATION**

Within five (5) workdays after receipt of Notice of Award, Contractor shall submit to the Contracting Officer the following post-award information:

- (a) Two (2) fully executed counterparts of the Contract Agreement including all the contract documents.
- (b) Performance and payment bonds as specified in Article 13 of these Supplemental Conditions.
- (c) Copy of all insurance certificates required in Articles 1, 2, and 3 of these Supplemental Conditions.
- (d) List of proposed subcontractors required in PART II, General Conditions, Article 21(a).
- (e) Major equipment schedule per PART II, General Conditions, Article 8(a). A firm commitment in writing from all suppliers of equipment that will be leased shall be provided. Equipment shall be open to inspection prior to award of the contract or commencement of work to verify soundness and reliability.
- (f) Contractor's proposed workweek (days and clock hours) per PART II, General Conditions, Article 20(a).
- (g) Contractor Certification form for Storm Water Pollution Prevention Plan (see PART IV, Appendix A to Construction Specification 5, Pollution Control).
- (h) For a nonresident bidder who is a corporation, limited partnership, or limited liability company: a current Certificate of Authority from Texas Secretary of State, if not yet provided.
- (i) Form CIQ, Conflict of Interest Questionnaire, as required by Article 9 of these General Conditions.

Should the bidder to whom the contract is awarded fail or refuse to enter into a proper contract with the CLO, or fail or refuse to comply with these conditions within the time specified, the bidder forfeits the bid guarantee, and/or the CLO may pursue any other action allowed by law.

**ARTICLE 5 – PERFORMANCE OF WORK BY CONTRACTOR**

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this contract if, during the performance of the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Contracting Local Organization.

**ARTICLE 6 – COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK**

- (a) Contractor shall be required to:
  - (1) Commence work under this contract within ten (10) calendar days from the date of receipt of written Notice to Proceed [note: performance time commences the day after Notice to Proceed is received];
  - (2) Prosecute the work diligently; and
  - (3) Complete the entire work ready for use not later than sixty-eight (68) calendar days from the day after Notice to Proceed is received by Contractor.
- (b) The time stated for completion shall include final cleanup of the premises.

**ARTICLE 7 – VENUE**

This contract shall be governed, construed and interpreted under the laws of the State of Texas. This contract is performable in Hays County, Texas. The Contracting Local Organization has domicile in Caldwell County, Texas, and any legal action must be filed in Caldwell County, Texas.

**ARTICLE 8 – WAGES / BENEFITS****8.1 General**

Contractor shall pay or cause to be paid, without cost or expense to Contracting Local Organization, all Social Security, Unemployment and Federal Income Withholding Taxes of all such employees, and all such employees shall be paid wages and benefits as required by Federal and/or State law (including but not restricted to unemployment compensation coverage) and per wage rates requirements in Article 8.2 below. In accordance with Texas Labor Code §61.012, Contractor shall post in conspicuous places in the workplace notices indicating the paydays.

## **8.2 Laborers and Mechanics – Prevailing Wage Rates**

(a) This contract requires the Contractor and any of his/her subcontractors at any tier to pay prevailing wage rates as specified in this article and to follow requirements contained in Texas Government Code, Chapter 2258, Prevailing Wage Rates.

(b) A copy of the Prevailing Wage Rates Determination that must be followed is included in PART VI of the contract.

(c) A worker employed or working upon the site of the work shall be paid the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) computed at rates not less than those contained in the Prevailing Wage Rates Determination for regular work and for legal holiday and overtime work, regardless of any contractual relationship which may be alleged to exist between the Contractor and such workers. "Worker" includes laborers or mechanics.

(d) Workers shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill. Those 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.

(e) The wage determination shall be posted at all times by the Contractor and subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by workers.

(f) 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.

(g) The Contractor or subcontractor shall insert in any subcontracts this Article 8, and also a clause requiring subcontractors to include Article 8 in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with this article.

(h) Payroll records. A Contractor and subcontractor shall keep a record showing: (i) the name and occupation of each worker (includes a laborer or mechanic) employed by the Contractor or subcontractor in the construction of the public work; and (ii) the actual per diem wages paid to each worker. The record shall be open at all reasonable hours to inspection by the officers and agents of the Contracting Local Organization and others as required by PART II, General Conditions, Article 37 (Contractor Records).

(i) A Contractor or subcontractor who violates this article shall pay to the Contracting Local Organization a penalty of \$60 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated.

## **ARTICLE 9 – ETHICS / CONFLICTS OF INTEREST**

(a) Texas Local Government Code Chapter 171 provisions apply to award of this contract.

(b) A bidder and/or Contractor shall not offer or accept gifts or anything of value nor enter into any business arrangement with any employee, official or agent of the Contracting Local Organization or Texas State Soil and Water Conservation Board.

(c) Contractor shall submit Form CIQ, Conflict of Interest Questionnaire, to PCCD with its Post-Award Information (see Article 4 of these General Conditions) and update the submittal if there are any changes during performance of the contract.

(d) Section 2252.908, Texas Government Code, as amended, requires that all contracts with private business entities requiring approval by the PCCD Board of Directors, and/or with the amount of the contract being in excess of \$1,000,000, will require the on-line completion of Form 1295, Certificate of Interested Parties. Form 1295 is also required for any and all contract amendments, extensions or renewals. The awarded Contractor will be required to complete and file electronically with the Texas Ethics Commission using the online filing application. If you have any questions about compliance, please consult your own legal counsel. Compliance is the individual responsibility of the Contractor. Please visit State of Texas Ethics Commission websites for more information:

- [https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)
- <https://www.ethics.state.tx.us/tec/1295-Info.htm>

**ARTICLE 10 – PROTESTS**

(a) Any actual or prospective bidder, offeror, proposer, or contractor who is aggrieved in connection with the solicitation, evaluation, or award of a contract may formally protest to the Contracting Officer. Such protests must be in writing and received by the Contracting Officer within ten working days after such aggrieved person knows, or should have known, of the occurrence of the action which is protested. Formal protests must conform to the requirements of this article and subsection (c) of this article, and shall be resolved in accordance with the procedure set forth in subsections (d) and (e) of this article. Copies of the protest must be mailed or delivered by the protesting person to the project manager, if any, and other interested persons. For the purposes of this section, "interested persons" means all vendors who have submitted bids or proposals for the contract involved.

(b) In the event of a timely protest or appeal under this section, the Contracting Local Organization shall not proceed further with the solicitation or with the award of the contract unless the Contracting Officer makes a written determination that the award of a contract without delay is necessary to protect substantial interests of the state.

(c) A formal protest must be sworn and notarized and contain:

- (1) a specific identification of the statutory or regulatory provision(s) that the action complained of is alleged to have violated;
- (2) a specific description of each act alleged to have violated the statutory or regulatory provision(s) identified in paragraph (1) of this subsection;
- (3) a precise statement of the relevant facts;
- (4) an identification of the issue or issues to be resolved;
- (5) argument and authorities in support of the protest; and
- (6) a statement that copies of the protest have been mailed or delivered to other identifiable interested persons.

(d) The Contracting Officer may settle and resolve the dispute concerning the solicitation or award of a contract by mutual agreement with the protesting person. The Contracting Officer may solicit written responses to the protest from other interested persons.

(e) If the protest is not resolved by mutual agreement, the Contracting Officer will issue a written determination on the protest.

(1) If the Contracting Officer determines that no violation of rules or statutes has occurred, he or she shall inform the protesting person and other interested persons by letter which sets forth the reasons for the determination.

(2) If the Contracting Officer determines that a violation of the rules or statutes has occurred in a case where a contract has not been awarded, he or she shall inform the protesting person and other interested persons by letter that sets forth the reasons for the determination and the appropriate remedial action.

(3) If the Contracting Officer determines that a violation of the rules or statutes has occurred in a case where a contract has been awarded, he or she shall inform the protesting person and other interested persons by letter which sets forth the reasons for the determination, and the appropriate remedial action, which may include ordering the contract void.

(f) After the Contracting Officer's determination has been made, the aggrieved person or interested persons may request reconsideration of the Contracting Officer's determination to be made by the Plum Creek Conservation District Board President or his/her designee. Such request must be in writing and must be received in the Board office no later than ten working days after the date of the Contracting Officer's determination, which shall be calculated from the date the Contracting Officer's letter is hand-delivered, delivered by a nationally recognized courier service, or mailed by certified or registered mail. The request shall be limited to review of the Contracting Officer's determination. Copies of the request must be mailed or delivered by the aggrieved person to other interested persons. The request must contain an affidavit that such copies have been provided.

(g) The Plum Creek Conservation District Board President shall issue a final determination on the protest within 15 days after receipt of the aggrieved person's request for reconsideration.

(h) A decision issued in writing by the Plum Creek Conservation District Board President in response to a request for reconsideration shall be the final administrative action of the Board.



(i) Unless good cause for delay is shown or the Contracting Officer or Plum Creek Conservation District Board President determines that a protest or appeal raises issues significant to procurement practices or procedures, a protest or appeal that is not filed timely will not be considered.

(j) In the event of a protest, all documents collected by the Plum Creek Conservation District Board as part of a solicitation, evaluation, and/or award of a contract shall be retained by the Board for a period of four years to include the current fiscal year and three additional fiscal years.

## **ARTICLE 11 – DISPUTES / ALTERNATIVE DISPUTE RESOLUTION (ADR)**

*[This article supplements PART II, General Conditions, Article 6 – Claims]*

### **11.1 Claims**

(a) The Contracting Local Organization's policy is to try to resolve all contractual issues in controversy by mutual agreement at the Contracting Officer's level. Reasonable efforts should be made to resolve controversies prior to the submission of a claim. Use of ADR procedures to the maximum extent practicable is encouraged.

(b) Initiation of a claim. (1) Contractor claims shall be submitted, in writing, to the Contracting Officer for a decision no later than the 180<sup>th</sup> day after accrual of a claim. The claim must state with particularity the nature of the breach, the amount the Contractor seeks as damages, and the legal theory of recovery. The Contracting Officer shall document the contract file with evidence of the date of receipt of any submission from the Contractor deemed to be a claim by the Contracting Officer. The Contracting Officer must assert, in a writing delivered to the Contractor, any counterclaim not later than the 90<sup>th</sup> day after the date of receipt of Contractor's written claim

(2) The Contracting Local Organization shall issue a written decision on any Contracting Local Organization claim initiated against a Contractor no later than the 180<sup>th</sup> day after accrual of the claim. This time period shall not apply to a Contracting Local Organization claim based on a Contractor claim involving fraud.

(c) Contractor certification. Contractor shall provide the certification specified below when submitting any claim exceeding \$100,000, or regardless of the amount claimed when using ADR procedures. The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim. The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim. The certification shall state as follows:

"I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Contracting Local Organization is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

(d) The Contracting Local Organization shall pay interest on a Contractor's claim on the amount found due and unpaid from the date that the Contracting Officer receives the claim (certified if required by Article 11.1(c) above); or payment otherwise would be due, if that date is later, until the date of payment. If a claim has a defective certification, interest shall be paid from the date that the Contracting Local Organization receives a proper certification. Amount of interest due will be per Texas and local law and regulation.

### **11.2 Alternative Dispute Resolution (ADR)**

(a) The objective of using ADR procedures is to increase the opportunity for relatively inexpensive and expeditious resolution of issues in controversy. Essential elements of ADR include:

- (1) Existence of an issue in controversy,
- (2) A voluntary election by both parties to participate in the ADR process,
- (3) An agreement on alternative procedures and terms to be used in lieu of formal litigation,
- (4) Participation in the process by officials of both parties who have the authority to resolve the issue in controversy, and

(5) Certification by the Contractor in accordance with Article 11.1(c) when using ADR procedures to resolve all or part of a claim.

(b) If either party rejects a request for ADR from the other party, the rejecting party shall inform the other party in writing of the specific reasons for rejecting the request, including but not limited to why ADR procedures are inappropriate for the resolution of the dispute.

(c) ADR procedures may be used at any time that the Contracting Officer has authority to resolve the issue in controversy. If a claim has been submitted, ADR procedures may be applied to all or a portion of the claim. When ADR procedures are used subsequent to the issuance of a Contracting Officer's final decision, their use does not constitute a reconsideration of the final decision.

(d) When appropriate, a neutral person may be used to facilitate resolution of the issue in controversy using the procedures chosen by the parties.

(e) The rights of Contracting Local Organization and Contractor to exercise such rights or remedies as either party may otherwise have under the contract or by laws or regulations in respect of any claims, disputes, and other issues in controversy are not affected by action taken under this Article.

(f) ADR procedures must be consistent with Chapter 154, Texas Civil Practice and Remedies Code, and Chapter 2009, Texas Government Code, Alternative Dispute Resolution for Use by Governmental Bodies.

### 11.3 Definitions

(a) Accrual of a claim occurs on the date when all events, which fix the alleged liability of either the Contracting Local Organization or the Contractor and permit assertion of the claim, were known or should have been known. For liability to be fixed, some injury must have occurred. However, monetary damages need not have been incurred.

(b) Alternative dispute resolution (ADR) means any procedure or combination of procedures voluntarily used to resolve issues in controversy without the need to resort to litigation. These procedures may include, but are not limited to, assisted settlement negotiations, conciliation, facilitation, mediation, fact-finding, mini-trials, and arbitration.

(c) Claim as used in this Article means a written demand or written assertion by one of the contracting parties seeking as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the contractor seeking the payment of money exceeding \$100,000 is not a claim under this Article until certified as required by Article 11.1(c) above. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim, by written notice to the Contracting Officer within time limits in section 11.1(b) of this Article, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d) Defective certification as used in this Article means a certificate which alters or otherwise deviates from the language in this Article or which is not executed by a person duly authorized to bind the Contractor with respect to the claim. Failure to certify shall not be deemed to be a defective certification.

(e) Issue in controversy means a material disagreement between the Contracting Local Organization and the Contractor which:

- (1) May result in a claim, or
- (2) Is all or part of an existing claim.

(f) Misrepresentation of fact as used in this Article means a false statement of substantive fact, or any conduct which leads to the belief of a substantive fact material to proper understanding of the matter in hand, made with intent to deceive or mislead.

(g) Neutral person as used in this Article means an impartial third party, who serves as a mediator, fact finder, or arbitrator, or otherwise functions to assist the parties to resolve the issues in controversy. A neutral person may be a permanent or temporary officer or employee of the Contracting Local Organization, or the Federal government, or any other individual who is acceptable to the parties. A neutral person shall have no official, financial, or personal conflict of interest with respect to the issues in controversy, unless such interest is fully disclosed in writing to all parties and all parties agree that the neutral person may serve. An "impartial third party" must possess the qualifications required under Section 154.052, Texas Civil Practice and Remedies Code.

### ARTICLE 12 – INDEMNIFICATION CLAUSE

The Contractor shall defend, indemnify, and hold harmless the Contracting Local Organization, all of its officers, agents and employees from and against all claims, actions, suits, demands, proceedings, costs, damages, and liabilities, arising out of, connected with, or resulting from any acts or omissions of Contractor or any agent, employee, subcontractor, or supplier of Contractor in the execution of performance of this contract.

**ARTICLE 13 – PERFORMANCE AND PAYMENT BONDS****13.1 General**

(a) This contract requires performance and payment bonds as outlined in 13.2 below. Such bonds are due within five (5) workdays after receipt of Notice of Award (see Article 4 of these Supplemental Conditions). The Contracting Local Organization will attach to the Notice of Award the bond forms to be used.

(b) Bonds shall be made payable to: Plum Creek Conservation District.

(c) Bonds are subject to requirements stated in this Article and requirements of Texas Government Code, Chapter 2253, Public Work Performance and Payment Bonds, and must be executed by a corporate surety in accordance with Texas Insurance Code, Chapter 3503 (Surety Bonds and Related Instruments), Subchapter A.

**13.2 Performance and Payment Bonds—Construction**

(a) **Definitions.** As used in this clause-- "Contract price" means the award price of the contract. "Government" means the Contracting Local Organization.

(b) The successful offeror shall be required to furnish performance and payment bonds to the Contracting Officer as follows:

(1) **Performance Bond:**

(i) The penal amount of performance bond shall be 100 percent of the original contract price.

(ii) The Government may require additional performance bond protection when the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price.

(iii) The Government may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(2) **Payment Bond:**

(i) The penal amount of payment bond shall be 100 percent of the original contract price.

(ii) The Government may require additional performance bond protection when the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price.

(iii) The Government may secure additional protection by directing the Contractor to increase the penal sum of the existing bond or to obtain an additional bond.

(c) The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in 13.1 above.

(d) A bond may be executed only by a corporate surety company that is authorized and admitted to write surety bonds in the State of Texas.

(e) For both the Performance bond and Payment bond, the surety must (i) hold a certificate of authority from the United States Secretary of the Treasury to qualify as a surety on obligations permitted or required under federal law; or (ii) have obtained reinsurance for any liability in excess of \$1,000,000 from a reinsurer that is an authorized reinsurer in the State of Texas or is a holder of a certificate of authority from the United States Secretary of the Treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law. U.S. Treasury Department Circular 570 is published in the *Federal Register* and lists Treasury approved surety companies and their underwriting limitations.

(f) All bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

(g) A bond required under this Article must clearly and prominently display on the bond or on an attachment to the bond: (1) the name, mailing address, physical address, and telephone number, including the area code, of the surety company to which any notice of claim should be sent; or (2) the toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, and a statement that the address of the surety company to which any notice of claim should be sent may be obtained from the Texas Department of Insurance by calling the toll-free telephone number.

**ARTICLE 14 – EQUAL EMPLOYMENT OPPORTUNITY**

Contractor will not discriminate against any employee or applicant for employment because of race, religion, ethnicity, gender, age, national origin, disability, veterans status or any other status or condition protected by applicable Federal and State laws. Contractor will take affirmative action to ensure that applicants and employees are not discriminated against.

**ARTICLE 15 – CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION—LOWER TIER COVERED TRANSACTIONS**

Contractor shall not subcontract to perform work under this contract with any firm that is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, or with a firm that is presently on the State of Texas debarred vendor list maintained by the Texas Comptroller of Public Accounts.

**ARTICLE 16 – SUBCONTRACTOR CERTIFICATION (TPDES)**

All subcontractors at any tier who perform work that may impact pollution control measures per PART IV, Construction Specification 5 (Pollution Control) must complete and submit, prior to performing any work on the project, a “Subcontractor Certification” form regarding Texas Pollutant Discharge Elimination System (TPDES) permit. This form is included in Appendix A attachment to Construction Specification 5.

## PART IV: SPECIFICATIONS

### Lower Plum Creek Watershed – Structural Repair Floodwater Retarding Structure Site 23

#### Construction Specifications

No.	Title	Total # Pages
2	Clearing and Grubbing	3
3	Structure Removal	2
5	Pollution Control	5
	APPENDIX A: SWP3 (with cover page)	10
6	Seeding, Sprigging, and Mulching	5
7	Construction Surveys	4
8	Mobilization and Demobilization	3
9	Traffic Control	3
11	Removal of Water	3
21	Excavation	4
23	Earthfill	6
26	Topsoiling	3
53	Ductile-Iron Pipe	3
61	Rock Riprap	5
81	Metal Fabrication and Installation	3
92	Field Fence	4
94	Contractor Quality Control	6
95	Geotextile	4
420	Site Preparation	4

#### Material Specifications

No.	Title	# Pages	Date
523	Rock for Riprap	3	9/2018
553	Ductile-Iron Pipe	1	1/2014
581	Metal	2	11/2005
582	Galvanizing	1	5/2001
591	Field Fencing Material	2	9/2018
592	Geotextile	3	9/2018

## **Construction Specification 2—Clearing and Grubbing**

### **1. Scope**

The work consists of clearing and grubbing and disposal of trees, snags, logs, brush, stumps, shrubs, and rubbish from the designated areas.

### **2. Protection of existing vegetation**

Trees and other vegetation designated to remain undisturbed shall be protected from damage throughout the duration of the construction period. Any damages resulting from the contractor's operations or neglect shall be repaired by the contractor.

Earthfill, stockpiling of materials, vehicular parking, and excessive foot or vehicular traffic shall not be allowed within the drip line of vegetation designated to remain in place. Vegetation damaged by any of these or similar actions shall be replaced with viable vegetation of the same species, similar condition, and like size unless otherwise approved by the contracting officer.

Any cuts, skins, scrapes, or bruises to the bark of the vegetation shall be carefully trimmed and local nursery accepted procedures used to seal damaged bark.

Any limbs or branches 0.5 inch or larger in diameter that are broken, severed, or otherwise seriously damaged during construction shall be cut off at the base of the damaged limb or branch flush with the adjacent limb or tree trunk. All roots 1-inch or larger in diameter that are cut, broken, or otherwise severed during construction operations shall have the end smoothly cut perpendicular to the root. Roots exposed during excavation or other operations shall be covered with moist earth or backfilled as soon as possible to prevent the roots from drying out.

### **3. Marking**

The limits of the area(s) to be cleared and grubbed will be marked by stakes, flags, tree markings, or other suitable methods. Trees to be left standing and uninjured will be designated by special markings placed on the trunk about 6 feet above the ground surface.

### **4. Clearing and grubbing**

All trees not marked for preservation and all snags, logs, brush, stumps, shrubs, rubbish, and similar materials shall be cleared from within the limits of the designated areas. Unless otherwise specified, all stumps, roots, and root clusters that have a diameter of 1 inch or larger shall be grubbed out to a depth of at least 2 feet below subgrade for concrete structures and 1 foot below the ground surface at embankment sites and other designated areas.

### **5. Disposal**

All materials cleared and grubbed from the designated areas shall be disposed of at locations shown on the drawings or in a manner specified in section 7. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from disposal at locations away from the project site.

### **6. Measurement and payment**

**Method 1**—For items of work for which specific units prices are established in the contract, the cleared and grubbed area is measured to the nearest 0.1 acre. Payment for clearing and grubbing is made for the total area within the designated limits at the contract unit price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the

completion of the work.

**Method 2**—For items of work for which specific unit prices are established in the contract, the length of the cleared and grubbed area is measured to the nearest full station (100 feet) along the line designated on the drawing or identified in the specifications. Payment for clearing and grubbing is made for the total length within the designated limits at the contract unit price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

**Method 3**—For items of work for which specific unit prices are established in the contract, each tree, stump, and snag having a diameter of 4 inches or larger and each log having a diameter of 4 inches or larger and a length of 10 feet are measured before removal. The size of each tree and snag is determined by measuring its trunk at breast height above the natural ground surface. The size of each log is determined by measuring the butt and by measuring its length from butt to tip. The size of each stump is measured at the top. Diameter is determined by dividing the measured circumference by 3.14.

Payment for clearing and grubbing of each tree, stump, and snag having a diameter of 4 inches or larger and each log having a diameter of 4 inches or larger and a length of 10 feet or larger is made at the contract unit price for its size designation as determined by the following schedule:

Measured diameter (in)	Size designation (in)
4 to 8	6
8 to 12	10
12 to 24	18
24 to 36	30
36 to 60	48
Over 60	60

The sum of such payments shall constitute full compensation for clearing and grubbing (including the clearing and grubbing of smaller trees, stumps, snags, logs, brush, shrubs, and roots), applicable permits and associated fees, and rubbish removal. Such payment shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

**Method 4**—For items of work for which specific lump sum prices are established in the contract, payment for clearing and grubbing is made at the contract lump sum price. Such payment shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

**All Methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7.

## 7. Items of work and construction details

7. Items of work and construction details

In section 5, Disposal, all materials removed from the cleared and grubbed areas shall be burned and buried or mulched on-site at areas designated or approved by the Contracting Officer.

Burning shall be local to the area being cleared and shall have a minimum buffer of 300 feet maintained between the burn area and any existing structures and trees.

The initiation of burning shall commence no earlier than one hour after sunrise and shall be completed on the same day not later than one hour before sunset and shall be attended by a responsible party at all times during the active burn phase. Open burning shall be in accordance with state and local regulations.

Materials that are to be buried (including residual ash and debris from burning operations) shall be buried at locations designated at the time of the showing of the site to prospective bidders. Buried material shall have a minimum earthfill cover of not less than 2 feet. The cover shall be placed in two lifts with each lift compacted by traversing the entire surface with one tread track of the material placement equipment. The top lift shall be mounded at least 6 inches higher than the surrounding undisturbed area to prevent unsightly depressions after settlement. The finished surface of the disposal area shall be uniformly graded to prevent ponding of water.

All trees, snags, logs, brush, shrubs, stumps, and rubbish that are felled, detached, or otherwise dislocated in or near stream channels shall be disposed of as specified or removed to higher ground prior to the end of each workday. The Contractor is to take precaution, when temporarily stockpiling cleared and grubbed materials, to guard against such cleared and grubbed materials being floated or transported off the worksite by rainstorm runoff.

Items of work to be performed in conformance with this specification and the construction details therefore are:

- a. Subsidiary Item, Clearing and Grubbing
  - (1) This item shall consist of the clearing and grubbing within the work limits required for construction of the works of improvement as shown on the drawings.
  - (2) The actual limits of required clearing and grubbing will be as designated or staked at the time of showing the site to prospective bidders.
  - (3) Upon completion of the clearing and grubbing operation, all areas which have been cleared and grubbed shall be dressed to be reasonably smooth by blading, dragging or floating. The entire area shall be reasonably free of abrupt mounds, dips and windrows to provide a clear area for construction staking.
  - (4) Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item for Mobilization and Demobilization.



## **Construction Specification 3—Structure Removal**

### **1. Scope**

The work shall consist of the removal, salvage, and disposal of structures (including fences) from the designated areas.

### **2. Marking**

**Method 1**—Each structure or structure part to be removed will be marked with stakes, flags, paint, or other suitable method.

**Method 2**—The area boundaries from which structures must be removed will be marked using stakes, flags, paint, or other suitable method. Structures to remain undisturbed or to be salvaged will be designated by special markings.

### **3. Removal**

**Method 1**—All structures designated for removal in the contract shall be removed to the specified extent and depth.

**Method 2**—Within the areas so marked, all visible and buried structures identified shall be removed to the specified extent and depth.

### **4. Salvage**

Structures or structure parts that are designated to be salvaged shall be carefully removed and neatly placed in the specified or approved storage location. Salvaged structures that are capable of being disassembled shall be dismantled into individual members or sections. Such structures shall be neatly and systematically match marked with paint before disassembly. All connectors and other parts shall be marked to indicate their proper location within the structure and shall be fastened to the appropriate structural member or packed in suitable containers.

Material from fences designated to be salvaged shall be placed outside the work area on the property on which the fence was originally located. Fence wire shall be rolled into uniform rolls of suitable size and neatly piled with other salvaged materials. Posts and rails shall be neatly stacked.

### **5. Disposal of refuse materials**

Refuse materials resulting from structure removal shall be disposed of in a manner and at locations specified in section 7 of this specification or in an acceptable manner and at locations approved by the contracting officer. Disposal by burning shall be in accordance with local rules and regulations.

### **6. Measurement and payment**

**Method 1**—For items of work for which specific unit prices are established by the contract, payment for the removal of each structure unit, except fences, is made at the contract unit price. Fences removed or removed and salvaged are measured to the nearest linear foot. Payment for fence removal or removal and salvage is made at the contract unit prices for each type and size of fence.

Such payment will constitute full compensation for all labor, equipment, tools, applicable permits and associated fees for burning and disposal of refuse, and all other items necessary and incidental to the completion of the work.

**Method 2**—For items of work for which specific lump sum prices are established by the contract, payment for structure removal is made at the contract lump sum price.

Such payment will constitute full compensation for all labor, equipment, tools, applicable permits and associated fees for burning and disposal of refuse, and all other items necessary and incidental to the completion of the work.

**All Methods**—The following provisions apply to all methods of measurement and payment.

Compensation for any item of work described in the contract, but not listed as a contract line item number in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in section 7 of this specification.

### **7. Items of work and construction details**

7. Items of work and construction details

In section 2, Marking, Method 1 shall apply.

In section 3, Removal, Method 1 shall apply. The fencing shall be removed to the bottom of the footing and/or post.

In section 4, Salvage, the fence wire and posts shall not be salvaged.

All fence material and rubble removed shall be disposed of at an offsite location of the contractor's choosing as approved by the contracting officer and in accordance with all local and state regulations.

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 1, Structure Removal, 6" Drainpipe and Fence

- (1) This item shall consist of the removal and disposal of 15-feet of the existing, 6-inch diameter cement asbestos drainpipe; approximately 6-feet of the existing 6-inch diameter corrugated metal drainpipe (outlet end), connector, and metal strap; and just enough fence, between 250 to 500-feet of existing fence, to complete the work in the construction area as shown on the drawings. The approximate limits of the existing fence to be removed is shown on the drawings. The actual limits of required fence to be removed will be marked or designated at the time of showing of the site to prospective bidders.
- (2) These items shall be disposed of at an offsite location of the contractors choosing in accordance to all local and state regulations.
- (3) In section 6, Measurement and payment, Method 2 shall apply.

## Construction Specification 5—Pollution Control

### 1. Scope

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

The following BioPreferred® product categories are applicable to this specification: — mulch and compost materials

erosion control materials

fertilizers

dust suppressants

agricultural spray adjuvants

### 2. Material

Silt fence shall conform to the requirement of Materials Specification 592, Geotextile. All other material furnished shall meet the requirements of the material specifications listed in section 8 of this specification.

### 3. Erosion and sediment control measures and works

The measures and works shall include, but are not limited to, the following:

**Staging of earthwork activities**—The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

**Seeding**—Seeding to protect disturbed areas shall occur as soon as reasonably possible following completion of that earthwork activity.

**Mulching**—Mulching to provide temporary protection of the soil surface from erosion.

**Diversions**—Diversions to divert water from work areas and to collect water from work areas for treatment and safe disposition. They are temporary and shall be removed and the area restored to its near original condition when the diversions are no longer required or when permanent measures are installed.

**Stream crossings**—Culverts or bridges where equipment must cross streams. They are temporary and shall be removed and the area restored to its near original condition when the crossings are no longer required or when permanent measures are installed.

**Sediment basins**—Sediment basins collect, settle, and eliminate sediment from eroding areas from impacting properties and streams below the construction site(s). These basins are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

**Sediment filters**—Straw bale filters or geotextile silt fences trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under or around them. Silt fences shall be installed and maintained in accordance with ASTM D6462. These filters are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

**Waterways**—Waterways for the safe disposal of runoff from fields, diversions, and other structures or measures. These works are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

**Other**—Additional protection measures as specified in section 8 of this specification or required by Federal, State, or local government.

#### **4. Chemical pollution**

The contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to collect and temporarily contain chemical pollutants, such as drained lubricating or transmission fluids, grease, soaps, concrete mixer washwater, or asphalt, produced as a by-product of the construction activities. Pollutants shall be disposed of in accordance with appropriate state and Federal regulations. At the completion of the construction work, tanks, barrels, and sumps shall be removed and the area restored to its original condition as specified in section 8 of this specification. Sump removal shall be conducted without causing pollution.

Sanitary facilities, such as chemical toilets, or septic tanks shall not be located next to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water source. At the completion of construction activities, facilities shall be disposed of without causing pollution as specified in section 8 of this specification.

#### **5. Air pollution**

The burning of brush or slash and the disposal of other materials shall adhere to state and local regulations.

Fire prevention measures shall be taken to prevent the start or spreading of wildfires that may result from project activities. Firebreaks or guards shall be constructed and maintained at locations shown on the drawings.

All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall ensure safe construction operations at all times. If chemical dust suppressants are applied, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the engineer 5 working days before the first application.

#### **6. Maintenance, removal, and restoration**

All pollution control measures and temporary works shall be adequately maintained in a functional condition for the duration of the construction period. All temporary measures shall be removed, and the site restored to near original condition.

#### **7. Measurement and payment**

**Method 1**—For items of work for which specific unit prices are established in the contract, each item is measured to the nearest unit applicable. Payment for each item is made at the contract unit price for that item. For water or chemical suppressant items used for dust control for which items of work are established in section 8 of this specification, measurement for payment will not include water or chemical suppressants that are used inappropriately or excessive to need. Such payment will constitute full compensation for the completion of the work.

**Method 2**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds and supported by invoices presented by the contractor that reflect actual costs. If the total of all progress payments is less than the lump sum contract price for this item, the balance remaining for this item will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of the work.

**Method 3**—For items of work for which lump sum prices are established in the contract, payment will be prorated and provided in equal amounts on each monthly progress payment estimate. The number of months used for prorating shall be the number estimated to complete the work as outlined in the contractor's approved construction schedule. The final month's prorate amount will be provided with the

final contract payment. Payment as described will constitute full compensation for completion of the work.

***All Methods***—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items, and the items to which they are made subsidiary, are identified in section 8 of this specification.

## **8. Items of work and construction details**

8. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

The disturbed area of this construction site is greater than one (1) acre in area but less than five (5) acres and is subject to the Texas Pollutant Discharge Elimination System (TPDES) requirements administered by the Texas Commission on Environmental Quality (TCEQ). Rules for the TPDES process relative to construction sites are contained in the TPDES General Permit NO. TXR150000. A copy of General permit No. TXR150000 may be found at the TCEQ website.

In conformance with TPDES General Permit TXR150000, a Storm Water Pollution Prevention Plan (SWP3) is required for the construction site. A SWP3 prepared by NRCS is provided. The Contractor shall review the SWP3 and shall amend the plan with a detailed work sequence outline which defines and delineates the proposed construction operation. The amended SWP3 shall be signed by the Contractor and submitted to the Contracting Officer prior to issuance of the Notice to Proceed. A copy of the approved SWP3, as amended, will be maintained at the construction site by the Contractor. A copy of the permit shall be attached to the SWP3.

If the Contractor identifies sediment control items, which are considered essential to the anticipated construction operation, but which are not reflected by the contract bid schedule, a written request for a contract modification will be provided to the Contracting Officer. The request will identify the items, operation, and provide an assessment of changes to the contract cost and performance time.

In conformance with TPDES requirements, the Inspector and the Contractor (or the Contractor's Quality Control person) shall perform periodic inspections of the sediment control practices. Inspections will be conducted bi-weekly (first work day of each week) and within 24 hours of any rainfall event of 0.5 inch or greater at the construction site. After each inspection, a written report will be prepared which summarizes the status of inspected items. The reports will (a) evaluate effectiveness, (b) identify maintenance needs and/or (c) recommend remedial corrective action and will be prepared and signed by the GR and the Contractor. The report shall be filed on site in the same location as the SWP3. The Contractor shall be responsible for identified corrective maintenance needs.

a. Bid Item 2, Pollution Control

- (1) This item shall consist of performing all work and furnishing all materials necessary to accomplish the work defined in section 1 of this specification, including all works required to implement the Storm Water Pollution Prevention Plan, installation of the rock sediment filter and maintenance of all silt fence, but not the installation of silt fence.

- (a) The rock sediment filter shall be installed as shown on the drawings.
  - (b) Toward the close of construction, when less than 10 feet of the final channel clearing and shaping remain, the rock sediment filter materials shall be transferred to the transition area of the new plunge basin as designated in the drawings.
- (2) In section 7, Measurement and payment, Method 3 shall apply.
- (3) The item of work subsidiary to this bid item is Sediment Silt Fence as specified in this specification.
- b. Subsidiary Item, Sediment Silt Fence
  - (1) This item shall consist of furnishing and installing sediment silt fence to the lengths and locations designated on the drawings and otherwise needed to control sediment from leaving the construction site. Maintenance of installed silt fence shall be paid for under the bid item for Pollution Control.
  - (2) In section 3, Erosion and sediment control measures and works, sediment filters shall be limited to geotextile sediment silt fence.
  - (3) The silt fence material shall meet the requirements of Material Specification 592.
  - (4) Separate payment shall not be made for this item of work. Compensation for this item will be included in the payment for the bid item Pollution Control.

**SITE 23 STORM WATER POLLUTION  
PREVENTION PLAN (SWP3)  
(9 pages)**

**APPENDIX A  
to  
Construction Specification 5 – SITE 23  
Pollution Control**

**Notes**

A copy of TPDES General Permit No. TXR150000 is available at the following internet address [PDF file requiring Adobe Acrobat Reader to view or print]:

<https://www.tceq.texas.gov/assets/public/permitting/stormwater/txr150000-cgp.pdf>



**LOWER PLUM CREEK WATERSHED  
SITE 23 REPAIR  
STORM WATER POLLUTION PREVENTION PLAN**

**SITE DESCRIPTION**

**Project Name and Location:**

Lower Plum Creek Site No. 23 approximately 2.0 miles Southeast of Lockhart, Caldwell County, Texas.

Latitude 29°51'16.09"N

Longitude 97°37'28.14"W

**Owner's Name and Address:** (Permanent)

Plum Creek Conservation District  
1101 W San Antonio St  
Lockhart, TX 78644

Caldwell Travis SWCD  
1403 Blackjack St. Ste D  
Lockhart, TX 78644-4901

Hays County SWCD  
326 Cheatham St.  
San Marcos, TX 78666-7770

**Owner's Name and Address:** (During Construction)

USDA, Natural Resources Conservation Service  
101 South Main  
Temple, TX 76501

**DESCRIPTION**

Structure Site No. 23 is a single-purpose earthen dam designed in 1971 for flood prevention with the construction completed in 1973 approximately 2.0 miles Southeast of Lockhart, Caldwell County, Texas. The site is situated within the Texas Blackland Prairie land resource area of Texas.

The scope of this repair design is to replace the outlet section of the left (looking downstream) foundation trench drain outlet pipe (6-inch diameter) and to reshape and armor the plunge pool area with rock riprap.

The major items of work requiring inspection are approximately 0.8 acres of vegetation establishment; 20-feet of ductile-iron pipe; 824 square yards of geotextile; 1,159 tons of rock riprap; and approximately 1,200 cu. yds. of site preparation.

Soil disturbing activities will include (in no particular order): clearing; stripping of topsoil; construction of the access road and construction campsite; removal of fences; 6-inch pipe repair; construction of plunge basin and channel section with rock riprap; vegetation establishment; construction of fences; and disposal of waste materials.

### **RUNOFF COEFFICIENT**

The pre and post-construction CN for the site will be essentially the same. The contractor will be required to maintain dewatering capabilities during the duration of the contract.

### **SITE AREA**

The work limits of the construction site encompass 4.8 acres (more or less) including the construction campsite, access roads, as well as stockpile and waste areas. The areas disturbed by construction activities total 1.0 acres of which 0.8 acres will be re-vegetated.

### **SEQUENCE OF MAJOR ACTIVITIES**

The estimated order of activities will be as follows:

1. Construct the access road and campsite, including any necessary site prep activities and fence removal
2. Construct water control measures
3. Foundation stripping and subgrade preparation of waste, and borrow areas
4. Trench drain outlet pipe repair
5. Reconstruct and shape plunge pool and install rock riprap
6. Final shaping and grading including removal of water control measures
7. Final restoration of disturbed areas
8. Fencing
9. Vegetation
10. Cleanup and Demobilization

### **NAME OF RECEIVING WATERS**

Site 23 is located on Pecan Branch that flows into Plum Creek (Segment 1801).

Data provided by the U.S. Fish and Wildlife Service indicates that Caldwell County does have endangered species present in the county. However, Caldwell County is not identified as a critical habitat for these species.

There are no properties listed or eligible for listing on the National Register of Historic Places in the vicinity of the work area.

### **CONTROLS**

#### **EROSION AND SEDIMENT CONTROL STABILIZATION PRACTICES**

**Temporary Stabilization** - The average annual rainfall in the area is 39 inches. Sediment filters, consisting of silt fences will be used during construction to help stabilize disturbed areas. Sediment filters are to be provided along the downstream boundary of any area which is stripped of vegetation during any phase of construction. Sediment filters are also to be provided on the downstream side of any soil material which is stockpiled for more than 14 days. All disturbed areas not covered in armoring shall be hay mulched after seeding of permanent vegetation.

After borrow operations are completed or as soon as practicable after temporary activity has ceased in an area it will be scarified as required in the specifications. All excavated slopes within the limits of the borrow area shall be maintained to be no steeper than 1:1 except that the final side slopes of all borrow areas shall be dressed and be no steeper than 4:1.

The construction ingress and egress will be stabilized with gravel or other stabilization materials to prevent the tracking of mud onto public streets by vehicles leaving the construction site.

All pollution control measures will be maintained in a functional condition as long as needed during the construction operation.

**Permanent Stabilization** - All cut slopes, earthfill slopes, and disturbed areas not covered with rock riprap will be protected against rilling and erosion by vegetation. Topsoil will be placed on the wave berm above the rock riprap armoring and other disturbed areas to facilitate vegetation establishment. Temporary stabilization measures will remain in place until coverage by permanent vegetation is at least 70 percent.

**Structural Practices** – No structural measures are anticipated for erosion and sediment control.

## **STORM WATER MANAGEMENT**

Storm water runoff from the construction area will be filtered with sediment fences or other measures as needed around the excavation areas, embankment, stockpiles, campsite, and other disturbed areas as described above for **EROSION AND SEDIMENT CONTROL**. Where construction roads cross low areas subject to concentrated storm water flow, culverts will be installed.

## **OTHER CONTROLS**

### **WASTE DISPOSAL**

#### **Waste Materials:**

All organic materials from the site preparation, clearing, and clearing and grubbing operations will be either chipped and used on site for mulch or burned in accordance with all state and local regulations. If the materials are burned on site, the residues will be buried in the waste areas. All inorganic materials from the site preparation will be disposed of by burying in the waste areas and covering with a minimum of 3 feet of soil. All trash and construction debris will be collected and disposed of off-site.

#### **Hazardous Waste:**

All chemical and hazardous waste materials will be disposed of off-site in accordance with local or state regulation or as recommended by the manufacturer.

#### **Sanitary Waste:**

All sanitary waste will be collected from portable units and disposed of in accordance with local regulations.

#### **Dust Control:**

Dust will be controlled on all haul roads and access roads by sprinkling with water.

## **CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS**

All local and State regulations will be adhered to concerning the burning of organic materials or disposal of organic, chemical, and sanitary waste. The repair project will be conducted in accordance with the U.S. Department of the Army Corps of Engineers Nationwide Permit No. 3 Maintenance. The Texas Commission on Environmental Quality (TCEQ) has issued Texas Pollutant Discharge Elimination System (TPDES) permits for storm water discharges from construction activities under Section 402(p) of the CWA. There are no other applicable State or Federal requirements for sediment and erosion site plans or storm water management site plans.

## **MAINTENANCE AND INSPECTION PROCEDURES**

The Contractor, \_\_\_\_\_, will be responsible for intermittent review and inspection of the operation and maintenance of all pollution control measures throughout the life of the contract. Inspection of the conditions and the need for repair shall be made within 24 hours of each rainfall event of 0.5 inch or greater. Daily inspections of the need for cleanup of chemical spills and sanitary facilities will be performed.

Routine inspection of disturbed areas, storage areas, stockpiled materials, traffic areas and sediment filters shall be made every seven (7) days.

A maintenance inspection report will be made after each inspection. The report will be documented in the contractor's and the project engineer's daily job diary maintained on the job. The report will be prepared in accordance with Part V of the general permit.

The report will document the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated. Each report will be attached to the Storm Water Pollution Prevention Plan (SWP3) and remain with the SWP3 on site. Each report will be retained as part of the SWP3 for at least three (3) years from the date the site is finally stabilized.

The SWP3, a copy of the permit or permit language, and all inspection reports shall be available at a central location on site for the use of all operations and those who have responsibilities under the SWP3.

## **NON-STORM WATER DISCHARGES**

It is expected that the following non-storm water discharges may occur from the site during the construction period:

Water for dust control

Water for adjustment of moisture in earthfill and backfill operations

## **INVENTORY FOR POLLUTION PREVENTION PLAN**

The following list of materials or substances are expected to be present during construction:

Petroleum Based Products

Chemical Fertilizers  
Paint  
Rock Riprap  
Antifreeze  
Asbestos cement pipe

Other \_\_\_\_\_  
Other \_\_\_\_\_

#### **SPILL PREVENTION**

#### **MATERIAL MANAGEMENT PRACTICES:**

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

#### **GOOD HOUSEKEEPING:**

The following good housekeeping practices will be followed on site during project construction:

An effort will be made to store only enough product required to do the job.

All materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.

Products will be kept in their original containers with the original manufacturer's label.

Whenever possible, all of a product will be used up before disposing of the container.

Manufacturers' recommendations for proper use and disposal will be followed.

The contractor's job superintendent will be responsible for the proper use, storage, and disposal of materials on site.

#### **HAZARDOUS PRODUCTS:**

These practices will be used to reduce the risks associated with hazardous materials.

Products will be kept in original containers unless they are not resealable.

Original labels and material safety data will be retained.

If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

#### **PRODUCT SPECIFIC PRACTICES**

#### **PETROLEUM PRODUCTS:**

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. The storage and dispensing of all petroleum products will be in accordance with part 1926.152 of the OSHA Construction Industry Safety and Health Standards. All spills of petroleum products will be cleaned up within 7 days. All contaminated soils will be removed from the site and disposed of in accordance with State and local regulations.

#### **PAINTS:**

All containers will be tightly sealed and stored when not required for use. Excess paint will not be disposed of onsite, but will be disposed of in accordance with manufacturers' instructions or State and local regulations.

### **SPILL CONTROL PRACTICES**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

Manufacturers' recommended methods for spill cleanup will be followed.  
All spills of hazardous materials will be cleaned up immediately after discovery.  
Spills of toxic or hazardous materials will be reported to the appropriate State or local government agency.

Contractor, \_\_\_\_\_, will be responsible for spill prevention and cleanup.

## STORM WATER POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**CLINTON EVANS**

Digitally signed by CLINTON EVANS  
Date: 2020.09.09 16:46:36 -06'00'

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CLINT EVANS

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Date

Acting State Conservationist

USDA, Natural Resources Conservation Service

Temple, Texas

## CONTRACTOR CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general Texas Pollutant Discharge Elimination System (TPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification. I also understand that I am responsible for all on-site requirements of the Storm Water Pollution Discharge Plan.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_



### **SUBCONTRACTOR CERTIFICATION**

I certify under penalty of law that I understand the terms and conditions of the general Texas Pollutant Discharge Elimination System (TPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

## Construction Specification 6—Seeding, Sprigging, and Mulching

### 1. Scope

The work consists of preparing the area for treatment; furnishing and placing seed, sprigs, mulch, fertilizer, inoculant, lime, and other soil amendments; and anchoring mulch in designated areas as specified.

The following BioPreferred® product categories are applicable to this specification:

- Mulch and compost materials
- Erosion control materials
- Fertilizers
- Agricultural spray adjuvants

### 2. Material

**Seed**—All seed must conform to the current rules and regulations of the State where it is being used and must be from the latest crop available. It must meet or exceed the standard for purity and germination listed in section 7.

Seed must be labeled in accordance with State laws and U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures are evidence of purity and germination. No seed may be accepted with a test date of more than 9 months before the date of delivery to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable must be as defined in the current State laws relating to agricultural seeds. Each type of seed must be delivered in separate sealed containers and fully tagged unless an exception is granted in writing by the contracting officer.

**Fertilizer**—Unless otherwise specified, the fertilizer must be a commercial-grade fertilizer. It must meet the standard for grade and quality specified by State law. Where fertilizer is furnished from bulk storage, the contractor must furnish a supplier's certification of analysis and weight. When required by the contract, a representative sample of the fertilizer must be furnished to the contracting officer for chemical analysis.

**Inoculants**—The inoculant for treating legume seeds must be a pure culture of nitrogen-fixing bacteria prepared specifically for the species and must not be used later than the date indicated on the container or as otherwise specified. A mixing medium, as recommended by the manufacturer, must be used to bond the inoculant to the seed. Two times the amount of the inoculant recommended by the manufacturer must be used, except that four times the amount must be used when seed is applied using a hydraulic seeder. Seed must be sown within 24 hours of treatment and must not remain in the hydraulic seeder longer than 4 hours.

**Lime and other soil amendments**—Lime must consist of standard ground agriculture limestone or approved equivalent. Standard ground agriculture limestone is defined as ground limestone meeting current requirements of the State department of agriculture. Other soil amendments must meet quality criteria and application requirements specified in section 7.

***Mulch tackifiers***—Asphalt emulsion tackifiers must conform to the requirements of ASTM D977, Specification for Emulsified Asphalt. The emulsified asphalt may be rapid setting, medium setting, or slow setting. Nonasphaltic tackifiers required because of environmental considerations must be as specified in section 7.

***Straw mulch material***—Straw mulch must consist of wheat, barley, oat or rye straw, hay, grass cut from native grasses, or other plants as specified in section 7. The mulch material must be air-dry, reasonably light in color, and must not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds is not permitted. The contractor must provide a method satisfactory to the contracting officer for determining weight of mulch furnished.

***Other mulch materials***—Mulching materials, such as wood cellulose fiber mulch, mulch tackifiers, synthetic fiber mulch, netting, and mesh may be required for specialized locations and conditions. These materials, when specified, must be accompanied by the manufacturer's recommendations for methods of application.

### **3. Seeding mixtures, sod, sprigs, and dates of planting**

The application rate per acre for seed mixtures, sprigs, or sod and date of seeding or planting must be as shown on the plans or as specified in section 7.

### **4. Seedbed preparation and treatment**

Areas to be treated must be dressed to a smooth, firm surface. On sites where equipment can operate on slopes safely, the seedbed must be adequately loosened (4 to 6 inches deep) and smoothed. Depending on soil and moisture conditions, disking or cultipacking, or both, may be necessary to properly prepare a seedbed. Where equipment cannot operate safely, the seedbed must be prepared by hand methods by scarifying to provide a roughened soil surface so that broadcast seed will remain in place.

If seeding is to be accomplished immediately following construction operations, seedbed preparation may not be required except on a compacted, polished, or freshly cut soil surface.

Rocks larger than 6 inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance operations must be removed or disposed of as specified in section 7.

Seedbed preparation must be discontinued when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by the responsible engineer.

### **5. Seeding, sprigging, fertilizing, mulching, and stabilizing**

All seeding or sprigging operations must be performed in such a manner that the seed or sprigs are applied in the specified quantities uniformly in the designated areas. The method and rate of seed application must be as specified in section 7. Unless otherwise specified, seeding or sprigging must be accomplished within 2 days after final grading is completed and approved.

Fertilizer, lime, and other soil amendments must be applied as specified in section 7. When specified, the fertilizer and soil amendments must be thoroughly incorporated into the soil immediately following surface application.

The rate, amount, and kind of mulching or mesh must be as specified in section 7. Mulches must be applied uniformly to the designated areas. They must be applied to areas seeded not later than 2 working

days after seeding has been performed. Straw mulch material must be stabilized within 24 hours of application using a mulch crimper or equivalent anchoring tool or by a suitable tackifier. When the mulch crimper or equivalent anchoring tool is used, it must have straight blades and be the type manufactured expressly for and capable of firmly punching the mulch into the soil. Where the equipment can be safely operated, it must be operated on the contour. Hand methods must be used where equipment cannot safely operate to perform the work required.

The tackifier must be applied uniformly over the mulch material at the specified rate, or it must be injected into the mulch material as it is being applied. Mesh or netting stabilizing materials must be applied smoothly but loosely on the designated areas. The edges of these materials must be buried or securely anchored using spikes or staples as specified in section 7.

The contractor must maintain the mesh or netting areas until all work under the contract has been completed and accepted. Maintenance must consist of the repair of areas damaged by water erosion, wind, fire, or other causes. Such areas must be repaired to reestablish the intended condition and to the design lines and grades required by the contract. The areas must be refertilized, reseeded, and remulched before the new application of the mesh or netting.

## **6. Measurement and payment**

**Method 1**—For items of work for which specific unit prices are established in the contract, each area treated is measured as specified in section 7 and the area is calculated to the nearest 0.1 acre. Payment for treatment is made at the contract unit price for the designated treatment, which will constitute full compensation for completion of the work.

When specified as an item of work, mesh or netting is measured to the nearest square yard of surface area covered and accepted. Payment is made at the contract unit price and will constitute full compensation for completion of the work.

**Method 2**—For items of work for which specific lump-sum prices are established in the contract, the quantity of work will not be measured for payment. Payment for this item is made at the contract lump-sum price for the item and constitutes full compensation for the completion of the work.

**Method 3**—For items of work for which lump-sum prices are established in the contract, payment is made as the work proceeds. Progress payments are determined as specified in section 7. Payment of the lump sum contract price constitutes full compensation for completion of the work.

**All Methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7.

## **7. Items of work and construction details**

7. Items of work and construction details

In section 5, Seeding, sprigging, fertilizing, mulching, and stabilizing, straw mulch material shall consist of coastal Bermuda grass or a native bluestem mix and the rate of application shall be 2-1/2 tons per acre. Mulches shall be stabilized by a non- asphaltic tackifier and shall be applied at a rate of 40 pounds per acre or by a mechanical crimper. The contractor shall submit the manufacturer's product data and installation instructions for the tackifier to the Contracting Officer for approval of the product.

When working on slopes which are steeper than 3:1 horizontal to vertical, all rubber tire equipment on the slope will be held with truck or tractor and winch line with the truck or tractor operating along the crown of the embankment or other suitable flat surface. As an alternative, track (crawler) equipment with a low center of gravity may be used to perform work on slopes without a winch line requirement when operated in accordance with applicable OSHA requirements.

The plowing shall be on the approximate contour. Plowing will not be permitted when the ground is frozen or wet to the point that rutting would occur during plowing. The ground surface shall be left reasonably smooth and free of windrows, ridges, or depressions.

The seed mixture and application rate shall be:

- Common Bermuda grass, unhulled (*Cynodon dactylon*) 6.0 lb. PLS/Acre
- Common Bermuda grass, hulled (*Cynodon dactylon*) 4.6 lb. PLS/Acre
- Texhoka Buffalo grass burs (*Buchloe dactyloides*) 8.0 lb. PLS/Acre

Seeding shall take place immediately after completion of earthwork activities.

The grass seed shall be drilled or broadcast onto a firm, clean seedbed. Seed drilled shall be on the approximate contour. A grass seed drill equipped with depth control bands, grain drill with a grass seed attachment, or Brillion (type) seeder shall be used. The seed shall not be planted or covered deeper than 1/2 inch below the soil surface. The distance between rows shall not exceed 6 inches. Seed shall be distributed over the entire area at uniform rates. The areas shall be firmed before seeding and immediately following seeding with a cultipacker or corrugated packer roller weighing 180 to 190 pounds per foot of width. Only on areas not accessible to the drilling equipment, seed may be broadcast by hand. The hand seeded areas shall be hand raked and then firmed with a hand operated roller.

Seed of high quality customarily sold in the trade is required. The seed must be in sound, clean bags with each bag containing a tag showing, among other things with respect to the contents of the bag, name of the seed, locality and year of harvest, and the percentage of purity and germination. Seed tag figures will be accepted for purity and germination and the seed will either be accepted or rejected by the designated representative on the basis of the seed tag test. Seeding rates are for pure live seed (PLS) therefore, the percentage of purity as shown on the seed tag will determine the number of pounds of bulk material needed to obtain the required amount of pure live seed per acre.

Seeding shall be conducted between December 15 and September 1. In the event that the construction contract falls outside the dates indicated, a temporary cover shall be established. The seeding mixture of the temporary cover shall be as recommended by the local NRCS field office and approved by the Contracting Officer. No additional compensation or performance time will be allowed for permanent cover.

Fertilizer shall be of the pelleted form and shall be uniformly mixed. Prior to planting the grasses, fertilizer shall be applied and worked into the soil by disking with a weighted tandem

disk to a depth of approximately 4 inches. No fertilizer shall be applied when the ground is excessively wet, frozen, or otherwise in an untillable condition. The rate of application of the fertilizer shall be thirty pounds of nitrogen (N), forty pounds of phosphorous (P) and 30 pounds of potassium (K) per acre).

Items of work to be performed in conformance with this specification and the construction details therefore are:

a.       Subsidiary Item, Vegetation Establishment

- (1)       This item shall consist of preparing the seedbed and furnishing and applying seed, hay mulch, tackifier and fertilizer to the designated areas, approximately 0.8 acres, as shown on the drawings.
- (2)       Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item for Mobilization and Demobilization.

## **Construction Specification 7—Construction Surveys**

### **1. Scope**

The work consists of performing all surveys, measurements, and computations required by this specification.

### **2. Equipment and material**

Equipment for construction surveys shall be of a quality and condition to provide the required accuracy. The equipment shall be maintained in good working order and in proper adjustment at all times. Records of repairs, calibration tests, accuracy checks, and adjustments shall be maintained and be available for inspection by the engineer. Equipment shall be checked, tested, and adjusted as necessary in conformance with manufacturer's recommendations.

Material is field notebooks, stakes, templates, platforms, equipment, spikes, steel pins, tools, and all other items necessary to perform the work specified.

### **3. Quality of work**

All work shall follow recognized professional practice and the standards of the industry unless otherwise specified in section 9 of this specification. The work shall be performed to the accuracy and detail appropriate for the type of job. Notes, sketches, and other data shall be complete, recorded neatly, legible, reproducible and organized to facilitate ease in review and allow reproduction of copies for job documentation. Survey equipment that requires little or no manual recording of field data shall have survey information documented as outlined in section 9 of this specification.

All computations shall be mathematically correct and shall include information to identify the bid item, date, and who performed, checked, and approved the computations. Computations shall be legible, complete, and clearly document the source of all information used including assumptions and measurements collected.

If a computer program is used to perform the computations, the contractor shall provide the engineer with the software identification, vendor's name, version number, and other pertinent data before beginning survey activities. Computer generated computations shall show all input data including values assigned and assumptions made.

The elevations of permanent and temporary bench marks shall be determined and recorded to the nearest 0.01 foot. Differential leveling and transit traverses shall be of such precision that the error of vertical closure in feet shall not exceed plus or minus 0.1 times the square root of the traverse distance in miles. Linear measurements shall be accurate to within 1 foot in 5,000 feet, unless otherwise specified in section 9 of this specification. The angular error of closure for transit traverses shall not exceed 1-minute times the square root of the number of angles turned.

The minimum requirements for placing slope stakes shall be at 100-foot stations for tangents, as little as 25 feet for sharp curves, breaks in the original ground surface and at any other intermediate stations necessary to ensure accurate location for construction layout and measurement. Slope stakes and cross sections shall be perpendicular to the centerline. Significant breaks in grade shall be determined for cross sections. Distances shall be measured horizontally and recorded to the nearest 0.1 foot. Side shots for interim construction stakes may be taken with a hand level.

Unless otherwise specified in section 9 of this specification, measurements for stationing and establishing the location of structures shall be made to the nearest 0.1 foot.

Elevations for concrete work, pipes, and mechanical equipment shall be determined and recorded to the nearest 0.01 foot. Elevations for earth work shall be determined and recorded to the nearest 0.1 foot.

#### **4. Primary control**

The baselines and bench marks for primary control, necessary to establish lines and grades needed for construction, are shown on the drawings and have been located on the job site.

These baselines and bench marks shall be used as the origin of all surveys, layouts, and measurements to establish construction lines and grades. The contractor shall take all necessary precautions to prevent the loss or damage of primary control points. Any stakes or control points lost or damaged by construction activity will be reestablished by the contractor or at contractor expense.

#### **5. Construction surveys**

Before work starts that requires contractor performed surveys, the contractor shall submit in writing for the engineer's review: the name, qualifications, and experience of the individuals to be assigned to the survey tasks.

**Method 1**—Contractor performed surveys shall include:

- checking and any supplemental or interim staking
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

**Method 2**—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

**Method 3**—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payments
- performing original (initial) and final surveys for determinations of final quantities
- other surveys as described in section 9 of this specification.

#### **6. Staking**

The construction staking required for the item shall be completed before work on any item starts. Construction staking shall be completed as follows or as otherwise specified in section 9 of this specification:

**Clearing and grubbing**—The boundary of the area(s) to be cleared and grubbed shall be staked or flagged at a maximum interval of 200 feet, closer if needed, to clearly mark the limits of work. When contractor staking is the basis for determining the area for final payment, all boundary stakes will be reviewed by the engineer before start of this work item.

**Excavation and fill**—Slope stakes shall be placed at the intersection of the specified slopes and ground line. Slope stakes and the reference stakes for slopes shall be marked with the stationing, required cut or fill, slope ratio, and horizontal distance from the centerline or other control line. The minimum



requirements for placing slope stakes is outlined in section 3, Quality of work.

**Structures**—Centerline and offset reference line stakes for location, alignment, and elevation shall be placed for all structures.

## **7. Records**

All survey data shall be recorded in fully identified standard hard-bound engineering survey field notebooks with consecutively numbered pages. All field notes and printed data shall include the purpose or description of the work, the date the work was performed, weather data, sketches, and the personnel who performed and checked the work. Electronically generated survey data and computations shall be bound, page numbered, and cross referenced in a bound field notebook containing the index for all survey activities. All work shall follow recognized professional practice.

The construction survey records shall be available at all times during the progress of the work for examination and use by the engineer and when requested, copies shall be made available. The original field notebooks and other records shall be provided to and become the property of the owner before final payment and acceptance of all work.

Complete documentation of computations and supporting data for progress payments shall be submitted to the engineer with each invoice for payment as specified in section 9 of the specification. When the contractor is required to conduct initial and final surveys as outlined in section 5, Construction Surveys, notes shall be provided as soon as possible after completion to the engineer for the purpose of determining final payment quantities.

## **8. Payment**

**Method 1**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds, after presentation of correct and accurate invoices by the contractor showing related costs and evidence of the charges of suppliers, subcontractors, and others for supplies furnished and work performed. Invoices for the total amount of the contract price will not be accepted until all surveys are complete and required documentation has been determined complete. If the total of such payments is less than the lump sum contract price for this item, the unpaid balance will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of all work under the bid item.

**Method 2**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds with progress payment amounts determined as a percentage of the total work planned as projected from the contractor's approved construction schedule. Payment of the lump sum contract price will constitute full compensation for completion of all work under this bid item.

**All Methods**—Payment will not be provided under this item for the purchase price of materials or equipment having a residual value.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the item to which they are made subsidiary are identified in section 9 of this specification.

## **9. Items of work and construction details**

9. Items of work and construction details

In section 5, Construction Surveys, Method 2 shall apply. The surveys conducted by the Contractor shall include but not be limited to: (1) Those required to check all excavation and earthfill slopes as work progresses to ensure such slopes are maintained at those specified. (2) Earthfill slopes shall be checked at least each five feet vertical interval and corrected to planned slope. (3) Those required to set “bluetops” for subgrades and finished grades of all excavations, earthfills, and appurtenances to the works.

In section 8, Payment, Method 2 shall apply.

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 3, Construction Surveys

- (1) This item shall consist of all work required by section 1 of this specification.
- (2) Initial and final surveys for determinations of final quantities will be performed by the Government.
- (3) All surveys shall proceed from benchmarks, reference points and /or stakes set or established by the Government. The benchmarks are shown on the drawings.
- (4) The Contractor shall install Permanent Reference Markers (PRM).
  - (a) This item shall consist of all work and materials (except the benchmark cap) required for the establishment of permanent reference markers. The cap for the PRM will be furnished by the NRCS prior to casting/pouring the concrete.
  - (b) Two (2) PRMs per site shall be required. The locations of the markers shall be determined by the Engineer.
  - (c) Markers shall be cast in place, non-reinforced, concrete cylinders or precast, non-reinforced, concrete cylinders installed flush with the ground line and with a standard benchmark cap mounted on the top.
  - (d) The concrete cylinder shall have a minimum diameter of 10 inches and depth of 2 feet, except a lesser depth may be approved where rock is encountered. Earth forming will be permitted for cast-in-place markers.
  - (e) No surface finish will be required for that portion of the marker which will be below ground. If precast markers are used, backfill shall be thoroughly tamped in 4-inch layers.
  - (f) Testing not required. The concrete shall be a 6-sack mix with a maximum water-cement ratio of 0.5. Follow recommendations for commercially available, 3000 psi sack mix.
  - (g) The proportions of the aggregates shall be such as to produce a concrete mixture that works readily into the excavated hole but does not segregate or exude free water during consolidation.

## **Construction Specification 8—Mobilization and Demobilization**

### **1. Scope**

The work consists of the mobilization and demobilization of the contractor's forces and equipment necessary for performing the work required under the contract. It does not include mobilization and demobilization for specific items of work for which payment is provided elsewhere in the contract. Mobilization will not be considered as work in fulfilling the contract requirements for commencement of work.

### **2. Equipment and material**

Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site; premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other items specified in section 4 of this specification.

Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site specifically for this contract.

This work includes mobilization and demobilization required by the contract at the time of award. If additional mobilization and demobilization activities and costs are required during the performance of the contract as a result of changed, deleted, or added items of work for which the contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the item or items of work changed or added.

### **3. Payment**

Payment will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the contractor showing specific mobilization and demobilization costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price for mobilization and demobilization will constitute full compensation for completion of the work.

Payment will not be made under this item for the purchase costs of materials having a residual value, the purchase costs of materials to be incorporated in the project, or the purchase costs of operating supplies.

### **4. Items of work and construction details**

4. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 4, Mobilization & Demobilization

- (1) This item shall consist of performing all items of work for mobilization and demobilization as required by sections 1 and 2 of this specification.
- (2) The mobilization operation shall include but not be limited to the items in section 2 of this specification and the following items of work:
  - (a) The Contractor shall construct one temporary construction entrance and one site access at either the RC Lane location or the Seawillow Road location as shown in the drawings. The preferred site access will be specified during the site showing. Geotextile shall be non-woven and conform to the requirements of Material Specification 592. Using the RC Lane access, the Contractor shall protect the existing culvert(s) along RC Lane from damage. The Contractor shall fortify the access road where it passes over the existing culvert(s) at the locations shown on the drawings or as staked in the field. The culvert(s) shall be monitored and replaced if damaged. If required, the temporary construction entrance shall conform to Caldwell County specifications. The site access drive shall be a minimum of 14 feet wide and graded and smoothed to provide a surface which can be easily traversed by automobiles. A gated, recessed construction entrance, as shown on the drawings and meeting all requirements as set forth by the County shall be provided. Any gate and/or fencing materials removed to construct the construction entrance shall be disposed in accordance with Construction Specification 3. Culverts shall be installed at crossings of low areas where significant concentrations of runoff water accumulate and cause ponding of water. The road shall be maintained in a smooth rut-free condition throughout the contract period. Culverts installed as a part of this item of work shall have enough strength to support the anticipated loads imposed by construction traffic and shall be removed at the end of the contract period. If damage occurs to the culverts due to construction activities, those culverts shall be replaced. Corrugated metal culverts shall be galvanized. Unless the County requires otherwise, minimum culvert size shall be 18-inch I.D. and a minimum of 24 feet long with 2-2/3" x 1/2" corrugations and minimum 16 gage thickness. A minimum of 18 inches of compacted fill shall be placed over top of the pipe before construction equipment is allowed to pass.
- (3) Temporary fencing shall be installed at the locations shown on the drawings or as staked in the field by the Engineer for the management of livestock. Temporary barbed wire fencing shall be a minimum three (3) wire fence with maximum 20 feet post spacing. Temporary electric fencing shall be a minimum two (2) wire fence with maximum 50 feet post spacing. All temporary fencing shall be capable of turning a cow and preventing its access to the construction areas. As approved by the Engineer, all temporary fencing shall remain in place and be maintained during the entire contract period and shall be removed at the end of construction.

- (4) The demobilization operation shall include but not be limited to the following items of work:
- (a) Installing the new stile and new barbed wire fence and posts to equal or better condition as it existed prior to construction operations and as specified in Construction Specification 92.
  - (b) All debris, trash, tires, equipment, equipment parts, chains, cables, and other such items resulting from the construction operation shall, at the Contractor's expense, be removed from the worksite and salvaged by the Contractor or disposed of in an appropriate manner which meets all Federal, State, and local regulations.
  - (c) At the conclusion of the project, excess borrow material shall be hauled and stockpiled to the area designated in the drawings. All disturbed areas shall be bladed or smoothed to blend the area with the surrounding land surface. The bladed or smoothed surface shall be free of abrupt mounds, windrows, depressions or other irregularities that would prevent the safe operation of ordinary farm equipment thereon. Disturbed areas that are rebladed shall be seeded with a seed mix as specified in Construction Specification 6. The finished surface shall prevent diversion of surface runoff and shall prevent standing or ponding water.
  - (d) All buildings, trailers, chain link fence, barbed wire fence, storage sheds, sanitary facilities and other such items shall be removed from the worksite when construction work is completed.
  - (e) The access road shall be bladed to be smooth and shall be left in a rut-free condition. If road base/rock is used on the access road it shall be removed after construction work is completed unless otherwise indicated by the sponsors.
  - (f) The temporary construction entrance and its improvements shall be either kept or removed as determined by the landowner. If removed,
    - (i) the area shall be bladed and shaped to restore the area to its original condition as it existed prior to construction operations. If road base/rock is used on the access road it shall be removed after construction work is completed.
    - (ii) The fence in the vicinity of the temporary construction entrance shall be re-constructed to pre-construction or better conditions.
- (5) The items of work subsidiary to this bid item are:
- (a) Clearing and Grubbing, as specified in Construction Specification 2.
  - (b) Vegetation Establishment, as specified in Construction Specification 6.
  - (c) Traffic Control, as specified in Construction Specification 9.
  - (d) Stiles as specified in Construction Specification 81.
  - (e) Field Fence, as specified in Construction Specification 92.

## **Construction Specification 9—Traffic Control**

### **1. Scope**

The work shall consist of establishing traffic control and maintaining safe, convenient use of public roads and rights-of-way.

### **2. Traffic and access**

The contractor's operations shall cause no unnecessary inconvenience to the public. The public rights-of-way shall be maintained at all times unless interruption is authorized by proper local authority.

Contractor's authorized closing or detour plans shall be provided to the engineer for approval.

Safe and adequate access shall be provided and maintained to all public protection devices and to all critical utility control locations. Facility access shall be continuous and unobstructed unless otherwise approved.

### **3. Storage of equipment and material in public streets**

Construction materials and equipment shall not be stored or parked on public streets, roads, or highways. During any material or equipment loading or unloading activities that may temporarily interfere with traffic, an acceptable detour shall be provided for the duration of the activity. Any associated expense for this activity is the responsibility of the contractor.

Excavated material, including suitable material that is intended for adjacent trench backfill or other earth backfill as specified in section 5 of this specification, shall not be stored on public streets, roads, or highways that remain in service for the public. Any waiver of this requirement must be obtained from the proper local authority and approved by the engineer. All excess and unsuitable material shall be removed from the site as soon as possible. Any spillage shall be removed from roadways before they are used by the public.

### **4. Street closures, detours, and barricades**

The contractor shall comply with the requirements of all applicable responsible units of government for closure of any street, road, or highway. The contractor shall provide the required barriers, guards, lights, signs, temporary bridges, and flaggers together with informing the public of any detours and construction hazards by the most suitable means available, such as local newspapers or radio stations. The contractor is also responsible for compliance with additional public safety requirements that may arise during construction. The contractor shall furnish, install, and, upon completion of the work, promptly remove all signs, warning devices, and other materials used in the performance of this work.

Unless otherwise specified, the contractor shall notify, in writing, the fire chief, police chief, county sheriff, state patrol, schools that operate school buses, or any other government official as may be appropriate no less than 7 days before closing, partly closing, or reopening any street, road, or highway.

Unless otherwise specified, the contractor shall furnish to the engineer a written plan showing the proposed method of signing, barricading for traffic control, and safety for street detours and closures.

All temporary detours will be maintained to ensure use of public rights-of-way is provided in a safe manner. This may include dust control, grading, and graveling as required in section 7 of this specification.

### **5. General and specific references**

All signs, signals, barricades, use of flaggers, and other traffic control and public safety devices shall conform to the general requirements set forth in the Manual of Uniform Traffic Control Devices (MUTCD) and the latest edition of *Standard Highway Signs and Standard Alphabets for Highway Signs* and/or OSHA *Construction Industry Standards (29 CFR Part 1926), Subpart G, Signs, Signals, and Barricades* unless otherwise specified in section 7 of this specification.

#### **6. Measurement and payment**

For items of work for which specific lump sum prices are established in the contract, payment for the work is made at the contract lump sum price. Progress payments will be made based upon the percentage of estimated total time that traffic control will be required unless otherwise specified in section 7 of this specification. Payment will constitute full compensation for all flaggers, labor, materials, equipment, and all other items necessary and incidental to completion of the work.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in section 7 of this specification.

#### **7. Items of work and construction details**

7. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Subsidiary Item, Traffic Control

- (1) This item shall consist of performing all items of work for traffic control as required by sections 1 and 2 of this specification.
- (2) In section 4, Streets closures, detours, and barricades, the Contractor shall furnish a written plan showing the proposed method of signing, barricading for traffic control, use of flaggers, etc. to be approved by Caldwell County and this contract's Engineer.
- (3) Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item Mobilization and Demobilization.



## **Construction Specification 11—Removal of Water**

### **1. Scope**

The work consists of the removal of surface water and ground water as necessary to perform the construction required by the contract in accordance with the specifications. It shall include: (1) constructing, installing, building, and maintaining all necessary temporary water containment facilities, channels, and diversions; (2) furnishing, installing, and operating all necessary pumps, piping, and other facilities and equipment; and (3) removing all such temporary works and equipment after their intended function is no longer required.

### **2. Diverting surface water**

The contractor shall install, maintain, and operate all cofferdams, channels, flumes, sumps, and all other temporary diversion and protective works needed to divert streamflow and other surface water through or around the construction site. Control of surface water shall be continuous during the period that damage to construction work could occur. Unless otherwise specified and/or approved, the diversion outlet shall be into the same drainageway that the water would have reached before being diverted.

The contractor shall furnish the contracting officer, in writing, a proposed plan for diverting surface water before beginning any construction activities for which a diversion is required, unless waived in section 8 of this specification. Acceptance of this plan or the waiving of the plan requirement will not relieve the contractor of the responsibilities related to this activity during the process of completing the work as specified.

### **3. Dewatering the construction site**

Foundations, cutoff trenches, and all other parts of the construction site shall be dewatered and kept free of standing water and muddy conditions as necessary for the proper execution of the work. The contractor shall furnish, install, operate, and maintain all drains, sumps, pumps, casings, well points, and all other equipment required to properly dewater the site as specified. Dewatering systems that cause a loss of soil fines from the foundation areas will not be permitted.

The contractor shall furnish the contracting officer, in writing, a proposed plan for dewatering before commencing with any construction activity for which dewatering may be required, unless waived in section 8 of this specification. Acceptance of this plan or the waiving of the plan requirement will not relieve the contractor of the responsibilities for completing the specified work.

### **4. Dewatering borrow areas**

The contractor shall maintain all borrow areas free of surface water or otherwise provide for timely and effective removal of surface and subsurface water that accumulates within the borrow area, unless waived in section 8 of this specification. Borrow material shall be processed as necessary to achieve proper and uniform moisture content at the time of placement.

If pumping to dewater borrow areas is included as a bid item of work in the bid schedule, each pump discharge pipe shall be equipped with a water meter. The meter shall be such that the measured quantity of water is accurate within 3 percent of the true quantity. The contractor shall provide necessary support to perform accuracy tests of the water meter when requested by the contracting officer.

### **5. Erosion and pollution control**

Removal of water from the construction site, including the borrow areas, shall be accomplished so that erosion and the transporting of sediment and other pollutants are minimized. Dewatering activities shall

be accomplished in a manner that the water table water quality is not altered. Pollution control activities shall not conflict with the requirements of Construction Specification 5, Pollution Control, if it is a part of this contract.

## **6. Removal of temporary works**

When temporary works are no longer needed, the contractor shall remove and return the area to a condition similar to that which existed before construction. Areas where temporary works were located shall be graded for sightly appearance with no obstruction to natural surface waterflows or the proper functioning and access to the works of improvement installed. The contractor shall exercise extreme care during the removal stages to minimize the loss of soil sediment and debris that was trapped during construction.

Pipes, casings, and any other material used to dewater the site shall be removed from temporary wells. The wells shall be filled to ground level with clean gravel or other suitable material approved by the contracting officer. The contractor shall exercise extreme care to prevent pollution of the ground water by these actions.

## **7. Measurement and payment**

**Method 1**—Items of work listed in the bid schedule for removal of water, diverting surface water, and dewatering construction sites and borrow areas are paid for at the contract lump sum prices. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

**Method 2**—Items of work listed in the bid schedule for removal of water, diverting surface water, dewatering construction sites, and dewatering borrow areas are paid for at the contract lump sum prices. Such payment will constitute full compensation for furnishing, installing, operating, and maintaining the necessary trenches, drains, sumps, pumps, and piping and for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work. The exception is that additional payment for pumping to dewater borrow areas and the removal of water will be made as described in the following paragraph.

If pumping to dewater borrow areas is a contract bid item, payment is made at the contract unit price, which shall be the price per 1,000 gallons shown in the bid schedule. Such payment will constitute full compensation for pumping only. Compensation for equipment and preparation and for other costs associated with pumping is included in the lump sum payment for removal of water or the lump sum payment for dewatering the borrow areas. Payment is made only for pumping that is necessary to dewater borrow areas that cannot be effectively drained by gravity or that must have the water table lowered to be usable as a suitable borrow source. Pumping for other purposes will not be included for payment under this item.

**All Methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the contract line item to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 8 of this specification.

## **8. Items of work and construction details**

8. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 5, Removal of Water

- (1) This item shall consist of all operations necessary to accomplish the work defined in section 1 of this specification.
- (2) Written plans for diverting surface water and dewatering the plunge pool is required. The Contractor's written plans shall be submitted to the Engineer for approval prior to the start of construction operations.
- (3) In section 7, Measurement and payment, Method 1 shall apply. Payment shall be made as the work proceeds with progress payment amounts determined as a percentage of the total work planned as projected from the contractor's approved construction schedule. The final month's prorate amount will be provided with the final contract payment.

## Construction Specification 21—Excavation

### 1. Scope

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

### 2. Classification

Excavation is classified as common excavation, rock excavation, or unclassified excavation in accordance with the following definitions.

**Common excavation** is defined as the excavation of all materials that can be excavated, transported, and unloaded using heavy ripping equipment and wheel tractor-scrapers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by excavators having a rated capacity of one cubic yard or larger and equipped with attachments (shovel, bucket, backhoe, dragline, or clam shell) appropriate to the material type, character, and nature of the materials.

**Rock excavation** is defined as the excavation of all hard, compacted, or cemented materials that require blasting or the use of ripping and excavating equipment larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than 1 cubic yard encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation. The presence of isolated boulders or rock fragments larger than 1 cubic yard is not in itself sufficient cause to change the classification of the surrounding material.

For the purpose of these classifications, the following definitions shall apply:

*Heavy ripping equipment* is a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a track type tractor having a power rating of at least 250 flywheel horsepower unless otherwise specified in section 10.

*Wheel tractor-scraper* is a self-loading (not elevating) and unloading scraper having a struck bowl capacity of at least 12 cubic yards.

*Pusher tractor* is a track type tractor having a power rating of at least 250 flywheel horsepower equipped with appropriate attachments.

**Unclassified excavation** is defined as the excavation of all materials encountered, including rock materials, regardless of their nature or the manner in which they are removed.

### 3. Blasting

The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person(s) of proven experience and ability who is authorized and qualified to conduct blasting operations.

Blasting shall be done in a manner as to prevent damage to the work or unnecessary fracturing of the underlying rock materials and shall conform to any special requirements in section 10 of this specification. When specified in section 10, the contractor shall furnish the engineer, in writing, a blasting plan before blasting operations begin.

### 4. Use of excavated material

**Method 1**—To the extent they are needed, all suitable material from the specified excavations shall be used in the construction of required permanent earthfill or rockfill. The suitability of material for specific purposes is determined by the engineer. The contractor shall not waste or otherwise dispose of suitable excavated material.

**Method 2**—Suitable material from the specified excavations may be used in the construction of required earthfill or rockfill. The suitability of material for specific purposes is determined by the engineer.

## **5. Disposal of waste materials**

**Method 1**—All surplus or unsuitable excavated materials are designated as waste and shall be disposed of at the locations shown on the drawings.

**Method 2**—All surplus or unsuitable excavated materials are designated as waste and shall be disposed of by the contractor at sites of his own choosing away from the site of the work. The disposal shall be in an environmentally acceptable manner that does not violate local rules and regulations.

## **6. Excavation limits**

Excavations shall comply with OSHA Construction Industry Standards (29CFR Part 1926) Subpart P, Excavations, Trenching, and Shoring. All excavations shall be completed and maintained in a safe and stable condition throughout the total construction phase. Structure and trench excavations shall be completed to the specified elevations and to the length and width required to safely install, adjust, and remove any forms, bracing, or supports necessary for the installation of the work. Excavations outside the lines and limits shown on the drawings or specified herein required to meet safety requirements shall be the responsibility of the contractor in constructing and maintaining a safe and stable excavation.

## **7. Borrow excavation**

When the quantities of suitable material obtained from specified excavations are insufficient to construct the specified earthfills and earth backfills, additional material shall be obtained from the designated borrow areas. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as specified in section 10 or as approved by the engineer.

Borrow pits shall be excavated and finally dressed to blend with the existing topography and sloped to prevent ponding and to provide drainage.

## **8. Overexcavation**

Excavation in rock beyond the specified lines and grades shall be corrected by filling the resulting voids with portland cement concrete made of materials and mix proportions approved by the engineer. Concrete that will be exposed to the atmosphere when construction is completed shall meet the requirements of concrete selected for use under Construction Specification 31, Concrete for Major Structures, or 32, Structure Concrete, as appropriate.

Concrete that will be permanently covered shall contain not less than five bags of cement per cubic yard. The concrete shall be placed and cured as specified by the engineer.

Excavation in earth beyond the specified lines and grades shall be corrected by filling the resulting voids with approved, compacted earthfill. The exception to this is that if the earth is to become the subgrade for riprap, rockfill, sand or gravel bedding, or drainfill, the voids may be filled with material conforming to the specifications for the riprap, rockfill, bedding, or drainfill. Before correcting an overexcavation condition, the contractor shall review the planned corrective action with the engineer and obtain approval of the corrective measures.

## **9. Measurement and payment**

For items of work for which specific unit prices are established in the contract, the volume of each type and class of excavation within the specified pay limits is measured and computed to the nearest cubic yard by the method of average cross-sectional end areas or by methods outlined in section 10 of this specification. Regardless of quantities excavated, the measurement for payment is made to the specified pay limits except that excavation outside the specified lines and grades directed by the engineer to remove unsuitable material is included. Excavation required because unsuitable conditions result from the contractor's improper construction operations, as determined by the engineer, is not included for measurement and payment.

**Method 1**—The pay limits shall be as designated on the drawings.

**Method 2**—The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
- b. The lower and lateral limits shall be the neat lines and grades shown on the drawings.

**Method 3**—The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
- b. The lower and lateral limits shall be the true surface of the completed excavation as directed by the engineer.

**Method 4**—The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
- b. The lower limit shall be at the bottom surface of the proposed structure.
- c. The lateral limits shall be 18 inches outside of the outside surface of the proposed structure or shall be vertical planes 18 inches outside of and parallel to the footings, whichever gives the larger pay quantity, except as provided in d below.
- d. For trapezoidal channel linings or similar structures that are to be supported upon the sides of the excavation without intervening forms, the lateral limits shall be at the underside of the proposed lining or structure.
- e. For the purposes of the definitions in b, c, and d, above, any specified bedding or drainfill directly beneath or beside the structure will be considered to be a part of the structure.

**All methods**—The following provisions apply to all methods of measurement and payment.

Payment for each type and class of excavation is made at the contract unit price for that type and class of excavation. Such payment will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the performance of the work except that extra payment for backfilling over-excavation will be made in accordance with the following provisions.

Payment for backfilling over-excavation, as specified in section 8 of this specification, is made only if the excavation outside specified lines and grades is directed by the engineer to remove unsuitable material and if the unsuitable condition is not a result of the contractor's improper construction operations as determined by the engineer.

Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10 of this specification.

## **10. Items of Work and Construction Details**

10. Items of Work and Construction Details

Items of work to be performed in conformance with this specification and all the applicable construction details are contained in Construction Specification 420, Site Preparation.

## **Construction Specification 23—Earthfill**

### **1. Scope**

The work consists of the construction of earth embankments, other earthfills, and earth backfills required by the drawings and specifications.

Earthfill is composed of natural earth materials that can be placed and compacted by construction equipment operated in a conventional manner.

Earth backfill is composed of natural earth material placed and compacted in confined spaces or adjacent to structures (including pipes) by hand tamping, manually directed power tampers or vibrating plates, or their equivalent.

### **2. Material**

All fill material shall be obtained from required excavations and designated borrow areas. The selection, blending, routing, and disposition of material in the various fills shall be subject to approval by the engineer.

Fill materials shall contain no frozen soil, sod, brush, roots, or other perishable material. Rock particles larger than the maximum size specified for each type of fill shall be removed prior to compaction of the fill.

The types of material used in the various fills shall be as listed and described in the specifications and drawings.

### **3. Foundation preparation**

Foundations for earthfill shall be stripped to remove vegetation and other unsuitable material or shall be excavated as specified.

Except as otherwise specified, earth foundation surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill or otherwise acceptably scored and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the earthfill, and the surface material of the foundation shall be compacted and bonded with the first layer of earthfill as specified for subsequent layers of earthfill.

Earth abutment surfaces shall be free of loose, uncompacted earth in excess of 2 inches in depth normal to the slope and shall be at such a moisture content that the earthfill can be compacted against them to produce a good bond between the fill and the abutments.

Rock foundation and abutment surfaces shall be cleared of all loose material by hand or other effective means and shall be free of standing water when fill is placed upon them. Occasional rock outcrops in earth foundations for earthfill, except in dams and other structures designed to restrain the movement of water, shall not require special treatment if they do not interfere with compaction of the foundation and initial layers of the fill or the bond between the foundation and the fill.

Foundation and abutment surfaces shall be no steeper than one horizontal to one vertical unless otherwise specified. Test pits or other cavities shall be filled with compacted earthfill conforming to the specifications for the earthfill to be placed upon the foundation.

### **4. Placement**

Earthfill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the engineer. Earthfill shall not be placed upon a frozen surface nor shall snow, ice, or frozen material be incorporated in the earthfill matrix.



Earthfill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed the maximum thickness specified in section 10 or shown on the drawings. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted.

Hand compacted earth backfill shall be placed in layers whose thickness before compaction does not exceed the maximum thickness specified for layers of earth backfill compacted by manually directed power tampers.

Earth backfill shall be placed in a manner that prevents damage to the structures and allows the structures to assume the loads from the earth backfill gradually and uniformly. The height of the earth backfill adjacent to a structure shall be increased at approximately the same rate on all sides of the structure.

Earthfill and earth backfill in dams, levees, and other structures designed to restrain the movement of water shall be placed to meet the following additional requirements:

- (a) The distribution of materials throughout each zone shall be essentially uniform, and the earthfill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture, moisture content, or gradation from the surrounding material. Zone earthfills shall be constructed concurrently unless otherwise specified.
- (b) The surface of each layer shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.
- (c) The top surface of embankments shall be maintained approximately level during construction with two exceptions: A crown or cross-slope of about 2 percent shall be maintained to ensure effective drainage, or as otherwise specified for drainfill or sectional zones.
- (d) Dam embankments shall be constructed in continuous layers from abutment to abutment except where openings to facilitate construction or to allow the passage of streamflow during construction are specifically authorized in the contract.
- (e) Embankments built at different levels as described under (c) or (d) above shall be constructed so that the slope of the bonding surfaces between embankment in place and embankment to be placed is not steeper than 3 feet horizontal to 1 foot vertical. The bonding surface of the embankment in place shall be stripped of all material not meeting the requirements of this specification and shall be scarified, moistened, and recompacted when the new earthfill is placed against it. This ensures a good bond with the new earthfill and obtains the specified moisture content and density at the contact of the in-place and new earthfills.

## **5. Control of moisture content**

During placement and compaction of earthfill and earth backfill, the moisture content of the material being placed shall be maintained within the specified range.

The application of water to the earthfill material shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary. Uniform moisture distribution shall be obtained by disking.

Material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted earthfill or a foundation or abutment surface in the zone of contact with the earthfill becomes too dry to permit suitable bond, it shall either be removed or scarified and moistened by sprinkling to an acceptable moisture content before placement of the next layer of earthfill.

## 6. Compaction

**Earthfill**—Earthfill shall be compacted according to the following requirements for the class of compaction specified:

**Class A compaction**—Each layer of earthfill shall be compacted as necessary to provide the density of the earthfill matrix not less than the minimum density specified in section 10 or identified on the drawings. The earthfill matrix is defined as the portion of the earthfill material finer than the maximum particle size allowed in the reference compaction test method specified (ASTM D698 or ASTM D1557).

**Class B compaction**—Each layer of earthfill shall be compacted to a mass density not less than the minimum density specified.

**Class C compaction**—Each layer of earthfill shall be compacted by the specified number of passes of the type and weight of roller or other equipment specified or by an approved equivalent method. Each pass shall consist of at least one passage of the roller wheel or drum over the entire surface of the layer.

**Earth backfill**—Earth backfill adjacent to structures shall be compacted to a density equivalent to that of the surrounding in-place earth material or adjacent required earthfill or earth backfill. Compaction shall be accomplished by hand tamping or manually directed power tampers, plate vibrators, walk-behind, miniature, or self-propelled rollers. Unless otherwise specified heavy equipment including backhoe mounted power tampers or vibrating compactors and manually directed vibrating rollers shall not be operated within 3 feet of any structure. Towed or self-propelled vibrating rollers shall not be operated within 5 feet of any structure. Compaction by means of drop weights operating from a crane or hoist is not permitted.

The passage of heavy equipment will not be allowed:

- Over cast-in-place conduits within 14-days after placement of the concrete
- Over cradled or bedded precast conduits within 7 days after placement of the concrete cradle or bedding
- Over any type of conduit until the backfill has been placed above the top surface of the structure to a height equal to one-half the clear span width of the structure or pipe or 3 feet, whichever is greater, except as may be specified in section 10.

Compacting of earth backfill adjacent to structures shall not be started until the concrete has attained the strength specified in section 10 for this purpose. The strength is determined by compression testing of test cylinders cast by the contractor's quality control personnel for this purpose and cured at the work site in the manner specified in ASTM C 31 for determining when a structure may be put into service.

When the required strength of the concrete is not specified as described above, compaction of earth backfill adjacent to structures shall not be started until the following time intervals have elapsed after placement of the concrete.

Structure	Time interval (days)
Vertical or near-vertical walls with earth loading on one side only	14
Walls backfilled on both sides simultaneously	7

Conduits and spillway risers, cast-in-place (with inside forms in place)	7
Conduits and spillway risers, cast-in-place (inside forms removed)	14
Conduits, pre-cast, cradled	2
Conduits, pre-cast, bedded	1
Cantilever outlet bents (backfilled both sides simultaneously)	3

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## 7. Reworking or removal and replacement of defective earthfill

Earthfill placed at densities lower than the specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be reworked to meet the requirements or removed and replaced by acceptable earthfill. The replacement earthfill and the foundation, abutment, and earthfill surfaces upon which it is placed shall conform to all requirements of this specification for foundation preparation, approval, placement, moisture control, and compaction.

## 8. Testing

During the course of the work, the contractor shall perform quality control tests, as applicable, to identify earthfill and earth backfill materials; determine the reference maximum density and optimum moisture content; and document that the moisture content of material at the time of compaction and the density of earthfill and earth backfill in place conform to the requirements of this specification.

*Determining Reference Maximum Density and Optimum Moisture Content*—For Class A compaction, the reference maximum density and optimum moisture content shall be determined in accordance with the compaction test and method specified on the drawings or in section 10.

*Documenting Specification Conformance*—In-place densities of earthfill and earth backfill requiring Class A compaction shall be measured in accordance with ASTM D1556, D2167, D2937, or D6938. Moisture contents of earthfill and earth backfill at the time of compaction shall be measured in accordance with ASTM D2216, D4643, or D6938. Values of moisture content determined by ASTM D2216 are considered the true value of the soil moisture. Values of moisture content determined by ASTM D4643 or D6938 shall be verified by comparison to values obtained by ASTM D2216. Values of in-place density and moisture content determined by these tests shall be compared to the minimum density and moisture content range specified on the drawings or in section 10.

*Correction for Oversize Particles*—If the materials to be used for earthfill or earth backfill contain more than 5 percent by dry weight of oversize rock particles (particles larger than those allowed in the specified compaction test and method), corrections for oversize particles shall be made using the appropriate procedures explained in ASTM D4718.

## 9. Measurement and payment

For items of work for which specific unit prices are established in the contract, the volume of each type and compaction class of earthfill and earth backfill within the specified zone boundaries and pay limits is measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Unless otherwise specified in section 10, no deduction in volume is made for embedded items, such as, but not limited to, conduits, inlet structures, outlet structures, embankment drains, sand diaphragm and outlet, and their appurtenances.

The pay limits shall be as defined below, with the further provision that earthfill required to fill voids resulting from overexcavation of the foundation, outside the specified lines and grades, will be included in the measurement for payment only under the following conditions:

- Where such overexcavation is directed by the engineer to remove unsuitable material, and
- Where the unsuitable condition is not a result of the contractor's improper construction operations as determined by the engineer.

Earthfill beyond the specified lines and grades to backfill excavation required for compliance with OSHA requirements will be considered subsidiary to the earthfill bid item(s).

**Method 1**—The pay limits shall be as designated on the drawings.

**Method 2**—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the specified neat lines of the earthfill surface.

**Method 3**—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the measured surface of the completed earthfill.

**Method 4**—The pay limits shall be the specified pay limits for excavation and the specified neat lines of the earthfill surface.

**Method 5**—The pay limits shall be the specified pay limits for excavation and the measured surface of the completed earthfill.

**Method 6**—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work.

**Method 7**—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work except furnishing, transporting, and applying water to the foundation and earthfill material. Water applied to the foundation and earthfill material is measured and payment made as specified in Construction Specification 10.

**All methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10 of this specification.

## **10. Items of work and construction details**

10. Items of Work and Construction Details

Items of work to be performed in conformance with this specification and the applicable construction details are contained in Construction Specification 420, Site Preparation.

## **Construction Specification 26—Topsoiling**

### **1. Scope**

The work consists of furnishing and spreading topsoil to specified depths at locations shown on the drawings.

### **2. Quality of topsoil**

Topsoil shall consist of friable surface soil reasonably free of grass, roots, weeds, sticks, rocks, or other unsuitable material. Additional quality requirements, if any, are in section 7 of this specification.

### **3. Furnishing**

**Method 1**—Topsoil shall be salvaged from designated earth surfaces that will be disturbed by construction activities. After designated sites have been cleared and grubbed, the topsoil shall be removed from the designated areas and stockpiled at locations shown on the drawings or acceptable to the engineer. Unsuitable material encountered during removal of topsoil shall be disposed of at locations shown on the drawings or approved by the engineer, or it will be otherwise hauled and disposed of at locations removed from the construction site. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from the disposal at locations outside the construction work limits.

**Method 2**—Topsoil shall be furnished from an offsite source designated by the contractor. The engineer shall be granted access to the source for inspection and acceptance before delivery to the site. Test results and samples shall be provided when specified in section 7 of this specification.

### **4. Stockpiling**

Stockpiles of topsoil shall not conflict with the requirements of Construction Specification 5, Pollution Control, when made a part of this contract.

### **5. Spreading**

**Method 1**—Spreading shall not be conducted when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to uniform spreading operations. Surfaces designated to receive a topsoil application shall be lightly scarified just before the spreading operation.

Following the spreading operation, the topsoil surface shall be left reasonably smooth and without ruts or surface irregularities that could contribute to concentrated waterflow downslope.

**Method 2**—Spreading shall not be performed when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to uniform spreading operations. Surfaces designated to receive a topsoil application shall be lightly scarified just before the spreading operation. Where compacted earthfills are designated to be topsoiled, the topsoil shall be placed concurrently with the earthfill and shall be bonded to the compacted fill with the compacting equipment.

Following the spreading operation, the topsoil surface shall be left reasonably smooth and without ruts or surface irregularities that could contribute to concentrated waterflow downslope.

### **6. Measurement and payment**

**Method 1**—The total surface covered by topsoil is measured and the area(s) computed to the nearest square yard. Payment for furnishing and placing topsoil is made at the contract unit price.

**Method 2**—The total surface covered by topsoil, except the surface area of embankments, levees, dikes, and other earthfills not included for payment, is measured and the area(s) computed to the nearest square yard.

Payment for topsoil spread on the surface of embankments, levees, dikes, and other earthfills is included in the measurement and payment for that item of earthfill where topsoil application occurred.

**Method 3**—For items of work for which specific unit prices are established in the contract, the volume of topsoil furnished and spread is computed to the nearest cubic yard by the method of average cross-sectional end areas from surveys of the excavated topsoil stockpile or, if not stockpiled, cross-sectional surveys of the borrow area(s). Payment for furnishing and spreading topsoil is made at the contract unit price.

**All methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7 of this specification.

**All payment methods**—Payment will constitute full compensation for all labor, equipment, material, and all other items necessary and incidental to the completion of the work. This includes excavating, stockpiling, hauling, spreading, and the wasting of unsuitable excavated material.

## **7. Items of work and construction details**

7. Items of work and construction details

In section 3, Furnishing, Method 1 shall apply.

In section 5, Spreading, Method 1 shall apply. After spreading the topsoil on the required areas, a minimal amount of compacted effort shall be applied by passing over the entire surface with at least one pass of a dozer track. Care shall be taken to avoid over compaction that will hinder the establishment of grass.

Topsoil should be at or near optimum moisture as determined by the feel method. Optimum moisture is reached when the clay soils are at or slightly above the plastic limit. The soil (clay) is at its plastic limit when a sample can be rolled between the hands to form a 1/8" thread without cracking or breaking apart. Soil that can be rolled to a 1/16" thread without cracking or breaking apart is too wet. Other methods for determining soil moisture content shall be approved by the Engineer. The moisture content of the topsoil when placed shall be adjusted as necessary to meet the requirements. The topsoil shall be spread uniformly to the specified thickness. Finished grades shall be maintained at that specified, and the final surfaces of topsoiled areas shall be dressed by blading, dragging, or floating operations.

Items of work to be performed in conformance with this specification and the construction details therefore are:

- a. Subsidiary Item, Salvaging and Placing Topsoil
  - (1) This item shall consist of the salvaging of approved topsoil from required excavations; from the foundation stripping operations; and placing and spreading it on all earthfill areas and exposed cut slopes as designated on the drawings.
  - (2) The thickness of topsoil placed normal to the slope or approved surface shall be 6-inches, except in areas where the fill depth is less than 6-inches the topsoil depth shall equal the fill depth.
  - (3) Separate payment will not be made for this item of work. Compensation for this item of work will be include in the payment for the bid item Site Preparation.



## **Construction Specification 53—Ductile-Iron Pipe**

### **1. Scope**

The work consists of furnishing and installing ductile-iron pipe, fittings, and appurtenances as specified in section 9 of this specification and as shown on the drawings.

### **2. Material**

Ductile-iron pipe and fittings shall conform to the requirements of Material Specification 553, Ductile-Iron Pipe. Thickness class of pipe and rated working pressure shall be as specified in section 9 of this specification or as shown on the drawings.

Unless otherwise specified, special fittings and appurtenances shall be the same material as the pipe.

### **3. Laying and bedding the pipe**

Pipe shall be installed to the lines and grades shown on the drawings with bell socket ends aligned upstream unless otherwise specified. The pipe shall be installed in accordance with the manufacturer's recommendations, unless otherwise specified. Two copies of the pipe manufacturer's installation instructions shall be provided to the engineer before any pipe placement. The pipe shall be firmly and uniformly bedded within the trench throughout the entire length of the pipe section to the depth and in the manner specified. Bell holes for flanged, push-on, or mechanical joint pipe shall be provided as necessary to allow space for joint assembly and to permit the pipe barrel to be uniformly supported on the bedding.

### **4. Joints and connections**

Pipe joints shall conform to the details shown on the drawings and shall be sound and watertight at the pressures specified in section 9 of this specification.

### **5. Handling the pipe**

The contractor shall furnish all equipment and facilities needed to handle, store, and place the pipe without damaging the pipe, lining, encasement, or coating. Pipe coating, encasement, or lining that is damaged shall be repaired using methods recommended by the manufacturer unless otherwise specified in section 9 of this specification.

### **6. Pressure testing**

Pressure testing of the conduit, when specified, shall be conducted as follows:

- a. Placement of backfill before pressure testing shall be as specified in section 7 of this specification.
- b. Before pressure testing, the pipeline shall be flushed and free of all foreign material.
- c. The pipeline shall not be pressure tested until concrete for anchor and thrust blocks has attained the minimum specified compressive strength unless other specified methods of thrust restraint are provided.
- d. The total conduit or continuous section of conduit to be tested shall be filled with clean water at a rate not to exceed the maximum specified and tested at the pressure(s) specified in section 9 of this specification.
- e. The section of conduit being tested shall be allowed to stand full of water for a minimum of 24 hours before the start of pressure and leakage tests. Test pressures shall be held constant for 2 hours. When the amount of water loss exceeds the maximum allowable loss specified in section 9 of this specification, the leak(s) shall be repaired or otherwise corrected and the conduit shall be re-tested. The testing procedure shall be repeated until the requirements of the specifications are met.

## **7. Backfill**

**Method 1**—Backfill in accordance with section 9 of this specification shall be accomplished only in sufficient amount to hold the conduit in place during testing, with the following exceptions:

- a. Compacted backfill shall be placed to its final depth as shown on the drawings at vertical and horizontal deflection points, road crossings, and thrust blocks. Backfill shall be placed so that conduit and joint displacement does not occur.
- b. All joints and connections shall be completely exposed for visual observation during testing, except at locations described in the exception above.

**Method 2**—Backfill in accordance with section 9 of this specification shall be to the final depth as shown on the drawings for the section of conduit being tested.

**Use with either method**—The contractor shall be fully responsible for any and all work required to correct any leakage when the leakage test results in water loss that exceeds the amount specified in section 9 of this specification.

## **8. Measurement and payment**

For items of work for which specific unit prices are established in the contract, the quantity of each size, and thickness class of pipe is determined to the nearest foot by measurement of the installed length of pipe along the crown centerline of the conduit. Payment for each size and thickness class of pipe is made at the contract unit price for that size and thickness class of pipe. Such payment constitutes full compensation for furnishing, transporting, handling, and installing the pipe and necessary fittings and appurtenances complete in place.

Compensation for any item of work described in the contract, but not listed, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 9 of this specification.

## **9. Items of work and construction details**

## 9. Items of work and construction details

In section 2, Material, the nominal thickness class of the 6-inch pipe shall be 0.25 inches and have a rated working pressure of 350 psi.

Section 6, Pressure testing, shall not apply.

In section 7, Backfill, Method 2 shall apply.

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 6, Ductile-Iron Pipe

- (1) This item shall consist of furnishing and installing 20-feet of 6-inch I.D. ductile-iron pipe as the termination section for the 6-inch I.D. trench drain outfall line as described in the drawings. The 6-inch I.D. ductile-iron pipe will be joined to the existing 6-inch I.D. cement asbestos pipe with a watertight coupling rated for dissimilar material compatibility and in accordance with the manufacturer's recommendation.

b. The items of work subsidiary to this bid item are:

- (1) Metal Strap and Fasteners for 6" Ductile-Iron Pipe as specified in Construction Specification 81.
- (2) Rodent Guard for 6" Ductile-Iron Pipe as specified in Construction Specification 81.

## Construction Specification 61—Rock Riprap

### 1. Scope

The work consists of the construction of rock riprap revetments and blankets, including filter or bedding where specified.

### 2. Material

Rock riprap must conform to the requirements of Material Specification 523, Rock for Riprap, or if so specified, must be obtained from designated sources. It must be free from dirt, clay, sand, rock fines, and other material not meeting the required gradation limits.

At least 30 days before rock is delivered from other than designated sources, the contractor must designate in writing the source from which rock material will be obtained and provide information satisfactory to the contracting officer that the material meets contract requirements. The contractor must provide the responsible engineer free access to the source for the purpose of obtaining samples for testing. The size and grading of the rock must be as specified in section 8.

Rock from approved sources must be excavated, selected, and processed to meet the specified quality and grading requirements at the time the rock is installed.

Based on a specific gravity of 2.65 (typical of limestone and dolomite) and assuming the individual rock is shaped midway between a sphere and a cube, typical size/weight relationships are:

Sieve size of rock	Approx. weight of rock	Weight of test pile
16 inches	300 pounds	6,000 pounds
11 inches	100 pounds	2,000 pounds
6 inches	15 pounds	300 pounds

When specified in section 8 or when it is necessary to verify the gradation of the rock riprap, a particle size analysis must be performed in accordance with ASTM D5519, Test Method A or B. The analysis must be performed at the work site on a test pile of representative rock. The mass of the test pile must be at least 20 times the mass of the largest rock in the pile. The results of the test are compared to the gradation required for the project. Test pile results that do not meet the construction specifications must be cause for the rock to be rejected. The test pile that meets contract requirements must be left on the job site as a sample for visual comparison. The test pile must be used as part of the last rock riprap to be placed.

**Filter or bedding aggregates** when required must conform to Material Specification 521, Aggregates for Drainfill and Filters, unless otherwise specified. Geotextiles must conform to Material Specification 592, Geotextile.

### 3. Subgrade preparation

The subgrade surface on which the rock riprap, filter, bedding, or geotextile is to be placed must be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it must consist of approved material and must conform to the requirements of the specified class of earthfill.

Rock riprap, filter, bedding, or geotextile must not be placed until the foundation preparation is completed and the subgrade surface has been inspected and approved.

#### **4. Equipment-placed rock riprap**

The rock riprap must be placed by equipment on the surface and to the depth specified. It must be installed to the full course thickness in one operation and in such a manner as to avoid serious displacement of the underlying material. The rock for riprap must be delivered and placed in a manner that ensures the riprap in place is reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks and spalls filling the voids between the larger rocks. Some hand placing may be required to provide a neat and uniform surface.

Rock riprap must be placed in a manner to prevent damage to structures. Hand placing is required as necessary to prevent damage to any new and existing structures.

#### **5. Hand placed rock riprap**

The rock riprap must be placed by hand on the surface and to the depth specified. It must be securely bedded with the larger rocks firmly in contact one to another without bridging. Spaces between the larger rocks must be filled with smaller rocks and spalls. Smaller rocks must not be grouped as a substitute for larger rock. Flat slab rock must be laid on its vertical edge except where it is laid like paving stone and the thickness of the rock equals the specified depth of the riprap course.

#### **6. Filter or bedding**

When the contract specifies filter, bedding, or geotextile beneath the rock riprap, the designated material must be placed on the prepared subgrade surface as specified. Compaction of filter or bedding aggregate is not required, but the surface of such material must be finished reasonably smooth and free of mounds, dips, or windrows.

#### **7. Measurement and payment**

**Method 1**—For items of work for which specific unit prices are established in the contract, the quantity of each type of rock riprap placed within the specified limits is computed to the nearest ton by actual weight. The volume of each type of filter or bedding aggregate is measured within the specified limits and computed to the nearest cubic yard by the method of average cross-sectional end areas. For each load of rock riprap placed as specified, the contractor must furnish to the responsible engineer a statement-of-delivery ticket showing the weight to the nearest 0.1 ton.

Payment is made at the contract unit price for each type of rock riprap, filter, or bedding. Such payment is considered full compensation for completion of the work.

**Method 2**—For items of work for which specific unit prices are established in the contract, the quantity of each type of rock riprap placed within the specified limits is computed to the nearest 0.1 ton by actual weight. The quantity of each type of filter or bedding aggregate delivered and placed within the specified limits is computed to the nearest 0.1 ton. For each load of rock riprap placed as specified, the contractor must furnish to the engineer a statement-of-delivery ticket showing the weight to the nearest 0.1 ton. For each load of filter or bedding aggregate, the contractor must furnish to the responsible engineer a statement-of-delivery ticket showing the weight to the nearest 0.1 ton.

Payment is made at the contract unit price for each type of rock riprap, filter, or bedding. Such payment is considered full compensation for completion of the work.

**Method 3**—For items of work for which specific unit prices are established by the contract, the volume of each type of rock riprap and filter or bedding aggregate is measured within the specified limits and computed to the nearest cubic yard by the method of average cross-sectional end areas.

Payment is made at the contract unit price for each type of rock riprap, filter, or bedding. Such payment is considered full compensation for completion of the work.

**Method 4**—For items of work for which specific unit prices are established by the contract, the volume of each type of rock riprap, including filter and bedding aggregate, is measured within the specified limits and computed to the nearest cubic yard by the method of average cross-sectional end areas.

Payment is made at the contract unit price for each type of rock riprap, including filter and bedding. Such payment is considered full compensation for completion of the work.

**Method 5**—For items of work for which specific unit prices are established by the contract, the quantity of each type of rock riprap placed within the specified limits is computed to the nearest ton by actual weight. For each load of rock for riprap placed as specified, the contractor must furnish to the responsible engineer a statement-of-delivery ticket showing the weight to the nearest 0.1 ton.

Payment is made at the contract unit price for each type of rock riprap and includes compensation for any aggregate or geotextile installed as specified for filter or bedding. Such payment is considered full compensation for completion of the work.

**Method 6**—For items of work for which specific unit prices are established by the contract, the volume of each type of rock riprap is measured within the specified limits and computed to the nearest cubic yard by the method of average cross-sectional end areas.

Payment is made at the contract unit price for each type of rock riprap and includes compensation for any aggregate or geotextile installed as specified for filter or bedding. Such payment is considered full compensation for completion of the work.

**All methods**—The following provision applies to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 8.

No separate payment is made for testing the gradation of the test pile. Compensation for testing is included in the appropriate bid item for riprap.

## **8. Items of work and construction details**

8. Items of work and construction details

In section 2, Material, second paragraph, the Contractor shall provide written notice of proposed source of rock material at least five working days before delivery. Rock for use as riprap shall comply with the requirements of Material Specification 523, Rock Type 1. Rock shall conform to the gradation requirements of ASTM D6092 R-150.

Rock size requirements are shown on the construction drawings. Prior to delivery of rock to the construction site, the Contractor shall provide a certified gradation analysis from the rock quarry and other evidence satisfactory to the Engineer showing that the rock to be supplied complies with the specified gradation(s). Any differences of opinion between the Engineer, Contracting Officer, and the Contractor concerning gradation of the rock riprap being delivered to the site shall be resolved by dumping and checking the gradation of one random truck load of rock.

In the event such additional checking procedures become necessary, the mechanical equipment, scales, preparation of sorting site, and labor needed to prove the gradation by weighing shall be provided by the Contractor at no additional cost.

Rock will be subject to additional testing beyond ASTM's listed in Material Specification 523 when in judgment of the Engineer, delivered rock has defects that may not have been detected by the specified laboratory tests. These defects may result in accelerated weathering. Any rock delivered that experiences degradation when selected samples are placed in water for a time period of 7 days will be in non-compliance of the specification.

If, at the time the rock is delivered to the construction site, separation or segregation of the smaller rock fraction from the larger rock fraction has occurred, the rock shall be reworked as necessary to ensure a reasonably uniform distribution of the various rock sizes prior to placement of the rock. Due care shall be exercised during this reworking operation (if required) to prevent inclusion of earth or other undesirable materials in the riprap.

The contractor shall have various layers in the source rock quarry tested in accordance with ASTM D5240 if the rock quality is in question as determined by the Engineer.

Riprap delivery shall be made only during scheduled working hours and delivery tickets shall be furnished to the Inspector.

Riprap may be equipment placed except within two feet of the principal spillway. Riprap shall be hand placed within 2 feet of the principal spillway. Equipment shall not be allowed on the rock during or after placement.

Any damages to the principal spillway and/or principal spillway appurtenances shall be repaired, to industry standards, by the Contractor, at the Contractor's expense, and at no expense to the Government.

In section 7, Measurement and payment, Method 5 shall apply.

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Bid Item 7, Rock Riprap

- (1) This item shall include furnishing and placing the loose R-150 rock riprap required for the plunge basin and channel as shown on the drawings.

- b. The item of work subsidiary to this bid item is Geotextile, as specified in Construction Specification 95.



## **Construction Specification 81—Metal Fabrication and Installation**

### **1. Scope**

The work consists of furnishing, fabricating, and erecting metalwork, including the metal parts and fasteners of the composite structures.

### **2. Material**

Unless otherwise specified, material shall conform to the requirements of Material Specification 581, Metal. Steel shall be structural quality unless otherwise specified. Castings shall be thoroughly cleaned and subjected to careful inspection before installation. Finished surfaces shall be smooth and true to assure proper fit. Galvanizing shall conform to the requirements of Material Specification 582, Galvanizing.

### **3. Fabrication**

Fabrication of structural steel shall conform to the requirements of Specification for the Design, Fabrication and Erection of Structural Steel for Buildings (Riveted, Bolted and Arc-Welded Construction), American Institute of Steel Construction.

Fabrication of structural aluminum shall conform to the requirements in the Aluminum Design Manual available from The Aluminum Association.

### **4. Erection**

The frame of metal structures shall be installed true and plumb. Temporary bracing shall be placed wherever necessary to resist all loads to which the structure may be subjected, including those applied by the installation and operation of equipment. Such bracing shall be left in place as long as may be necessary for safety.

As erection progresses the work shall be securely bolted up, or welded, to resist all dead load, wind, and erection stresses. The contractor shall furnish such installation assisting bolts, nuts, and washers as may be required.

No riveting or welding shall be performed until the structure is stiffened and properly aligned.

Rivets driven in the field shall be heated and driven with the same care as those driven in the shop.

All field welding shall be performed in conformance to the requirements for shop fabrication except those that expressly apply to shop conditions only.

### **5. Protective coatings**

Items specified to be galvanized shall be completely fabricated for field assembly before the application of the zinc coatings. Galvanized items shall not be cut, welded, or drilled after the zinc coating is applied.

Items specified to be painted shall be painted in conformance to the requirements of Construction Specification 82 for the specified paint systems.

### **6. Measurement and payment**

**Method 1**—The work is not measured. Payment for metal fabrication and installation is made at the contract lump sum price in the contract. Such payment constitutes full compensation for all labor, equipment, material, and all other items necessary and incidental to the completion of the work including

connectors and appurtenances, such as rivets, bolts, nuts, pins, studs, washers, hangers, and weld metal.

**Method 2**—The weight of metal installed complete in place shall be determined to the nearest pound. Unless otherwise specified, the weight of metal shall be computed by the method specified in section 3 of the Code of Standard Practice for Steel Buildings and Bridges, American Institute of Steel Construction, except that the following unit weights shall also be used, as appropriate, as the basis of computation:

Material	Unit weight (lb/ft <sup>3</sup> )
Aluminum alloy	173
Bronze or copper alloy	536
Iron, malleable	470
Iron, wrought	487

Payment for furnishing, fabricating, and installing metalwork is made at the contract unit price for the specified types of labor, material, equipment, and all other items necessary and incidental to the completion of the work.

**Method 3**—The work is not measured. Payment for furnishing, fabricating, and installing each item of metalwork is made at the contract price for that item. Such payment constitutes full compensation for all labor, equipment, material, and all other items necessary and incidental to the completion of the work including connectors and appurtenances, such as rivets, bolts, nuts, pins, studs, washers, hangers, and weld metal.

**All methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7 of this specification.

## **7. Items of work and construction details**

7. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

- a.      Subsidiary Item, Metal Strap and Fasteners for 6" Ductile-Iron Pipe
  - (1)      This item shall consist of furnishing, fabricating, galvanizing, and installing the metal strap and fasteners as required for fastening the 6-inch ductile-iron outlet pipe as shown on the drawings.
  - (2)      Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item Ductile-Iron Pipe.
  
- b.      Subsidiary Item, Rodent Guard for 6" Ductile-Iron Pipe
  - (1)      This item shall consist of furnishing, fabricating, galvanizing, and installing the rodent guard required for the 6-inch ductile-iron outlet pipe as shown on the drawings.
  - (2)      Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item Ductile-Iron Pipe.
  
- c.      Subsidiary Item, Stiles
  - (1)      This item shall consist of fabricating and installing the fence stile as shown on the drawings.
  - (2)      Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item Mobilization and Demobilization.

## **Construction Specification 92—Field Fence**

### **1. Scope**

The work shall consist of furnishing and installing field fence, including gates and fittings.

### **2. Material**

Material for field fence shall conform to the requirements of Material Specification 591. All wooden posts shall be of the same species, when available.

Unless otherwise specified, surfacing, cutting, and boring of preservative treated wooden posts and braces shall be completed before treatment. If field cutting or field repair of treated material is approved, all cuts and abrasions shall be carefully trimmed and coated with copper naphthenate preservative containing a minimum of 2.0 percent copper metal. The treatment preservative shall be applied according to the product label. Any excess preservative not absorbed by the wood member shall be cleaned from the surface prior to the use of the member. Bored holes for connectors or bolts may be treated by pumping coal-tar roofing cement meeting ASTM D5643 into the holes using a caulk gun or similar device. After assembly, any unfilled holes shall be plugged with tightly fitting wooden plugs that have been treated with preservative as specified.

### **3. Setting posts**

Concrete or wood posts shall be set in holes and backfilled with earth except where otherwise specified. Wood posts may be driven when approved by the engineer. Steel posts shall be driven unless otherwise specified.

Holes for installing fence posts shall be at least 6 inches larger than the diameter or side dimension of the posts.

Earth backfill around posts shall be thoroughly tamped in layers not thicker than 4 inches and shall completely fill the posthole up to the ground surface. Concrete backfill around posts shall be rodded into place in layers not thicker than 12 inches and shall completely fill the posthole to the surface of the ground. Backfill, either earth or concrete, shall be crowned-up around posts at the ground surface.

No stress shall be applied to posts set in concrete for a period of not less than 24 hours following the development of a firm set of the concrete.

### **4. Corner assembly**

Unless otherwise specified in section 11, corner assemblies shall be installed at all points where the fence alignment changes 15 degrees or more.

### **5. End panels**

End panels shall be built at gates and fence ends.

### **6. Pull post assembly**

Pull post assembly (bracing within a section of straight fence) shall be installed at the following locations:

- a. In straight fence sections, at intervals not to exceed 660 feet.
- b. At any point where the vertical angle described by two adjacent reaches of wire is upward and exceeds 10 degrees (except as provided in section 11 of this specification).
- c. At the beginning and end of each curved fence section.

### **7. Attaching fencing to posts**

The fencing shall be stretched and attached to posts as follows:

- a. The fencing wire or netting shall be placed on the side of the post opposite the area being protected except for installation along curved sections.
- b. The fencing wire or netting shall be placed on the outside for installation along curved sections.
- c. The fencing wire or netting shall be fastened to each end post, corner post, and pull post by wrapping each horizontal strand around the post and tying it back on itself with not less than three tightly wound wraps.
- d. The fencing wire or netting shall be fastened to wooden line posts by means of steel staples. Woven-wire fencing shall be attached at alternate horizontal strands. Each strand of barbed wire shall be attached to each post. Steel staples shall be driven diagonally with the grain of wood and at a slight downward angle and shall not be driven so tightly as to bind the wire against the post.
- e. The fencing wire or netting shall be fastened to steel or concrete line posts with either two turns of 14 gauge galvanized steel or iron wire or in accordance with recommendations provided by the post's manufacturer.
- f. Wire shall be spliced by means of a Western Union splice or by suitable splice sleeves applied with a tool designed for that purpose. The Western Union splice shall have no less than eight wraps of each end about the other. All wraps shall be tightly wound and closely spaced. Splices made with splice sleeves shall have a tensile strength no less than 80 percent of the strength of the wire being spliced.

## **8. Stays**

Stays shall be attached to the fencing at the spacing outlined in section 11 or as shown on the drawings to ensure maintenance of the proper spacing of the fence wire strands.

## **9. Crossings at depressions and watercourses**

Where fencing is installed parallel to the ground surface, the line posts subject to upward pull shall be anchored.

- a. If the fence wire or netting is installed parallel to the ground surface, the line posts subject to uplift shall be anchored by means of extra embedment or by special anchors as detailed on the drawings.
- b. If the fence wire is installed with the top wire straight and parallel to the ground surface on either side of the depression, extra length posts shall be used to allow normal post embedment. Unless otherwise specified, excess space between the bottom of the fence and the ground shall be closed with extra strands of barbed wire or with netting.

## **10. Measurement and payment**

**Method 1**—The length of each type and kind of fence is measured to the nearest foot along the profile of the fence, including gate openings. Payment for each type and kind of fence is made at the contract unit price for that type and kind of fence. Such payment constitutes full compensation for completion of the work, including fabricating and installing gates.

**Method 2**—The length of each type and kind of fence is measured to the nearest foot along the profile of the fence, excluding gate openings. Payment is made at the contract unit price for the specified height of fence. The number of each size and type of gate installed is determined. Payment is made at the contract unit price for that type and size of gate. Such payment constitutes full compensation for all labor, material, equipment, and all other items necessary and incidental to the completion of the work.

**All methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 11 of this specification.

## **11. Items of work and construction details**

11. Items of work and construction details

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Subsidiary Item, Field Fence

- (1) This item shall consist of furnishing all materials required and constructing the barbed wire fence as designated on the drawings. Barbed wire consisting of (4) point barbs on 5-inch spacing has been approved for use in this project.
- (2) The approximate location of the fence to be constructed is shown on the construction drawings. The final location of the fence (including corners, gates, pull and brace panels, stiles and special anchorage) shall be as staked by the Engineer.
- (3) Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid items for Mobilization and Demobilization.

## **Construction Specification 94—Contractor Quality Control**

### **1. Scope**

The work consists of developing, implementing, and maintaining a quality control system to ensure that the specified quality is achieved for all materials and work performed.

### **2. Equipment and materials**

Equipment and material used for quality control shall be of the quality and condition required to meet the test specifications cited in the contract. Testing equipment shall be properly adjusted and calibrated at the start of operations and the calibration maintained at the frequency specified. Records of equipment calibration tests shall be available to the engineer at all times. Equipment shall be operated and maintained by qualified operators as prescribed in the manufacturer's operating instructions, the references specified, and as specified in section 10 of this specification. All equipment and materials used in performing quality control testing shall be as prescribed by the test standards referenced in the contract or in section 10.

All equipment and materials shall be handled and operated in a safe and proper manner and shall comply with all applicable regulations pertaining to their use, operation, handling, storage, and transportation.

### **3. Quality control system**

**Method 1**—The contractor shall develop, implement, and maintain a system of quality control to provide the specified material testing and verification of material quality before use. The system activities shall include procedures to verify adequacy of completed work, initiate corrective action to be taken, and document the final results. The identification of the quality control personnel and their duties and authorities shall be submitted to the contracting officer in writing within 15 calendar days after notice of award.

**Method 2**—The contractor shall develop, implement, and maintain a system adequate to achieve the specified quality of all work performed, material incorporated, and equipment furnished before use. The system established shall be documented in a written plan developed by the contractor and approved by the contracting officer. The system activities shall include the material testing and inspection needed to verify the adequacy of completed work and procedures to be followed when corrective action is required. Daily records to substantiate the conduct of the system shall be maintained by the contractor. The quality control plan shall cover all aspects of quality control and shall address, as a minimum, all specified testing and inspection requirements. The plan provided shall be consistent with the planned performance in the contractor's approved construction schedule. The plan shall identify the contractor's onsite quality control manager and provide an organizational listing of all quality control personnel and their specific duties. The written plan shall be submitted to the contracting officer within 15 calendar days after notice of award. The contractor shall not proceed with any construction activity that requires inspection until the written plan is approved by the contracting officer.

**All methods**—The quality control system shall include, but not be limited to, a rigorous examination of construction material, processes, and operation, including testing of material and examination of manufacturer's certifications as required, to verify that work meets contract requirements and is performed in a competent manner.

### **4. Quality control personnel**

**Method 1**—Quality control activities shall be accomplished by competent personnel. A competent person is: One who is experienced and capable of identifying, evaluating, and documenting that materials and processes being used will result in work that complies with the contract; and, who has authority to take prompt action to remove, replace, or correct such work or products not in compliance. Off-site testing laboratories shall be certified or inspected by a nationally recognized entity. The Contractor shall submit to the Contracting Officer, for approval, laboratory certification or inspection information. The Contractor



shall submit to the Contracting Officer, for approval, the names, qualifications, authorities, certifications, and availability of the competent personnel who will perform the quality control activities.

**Method 2**—Quality control activities shall be accomplished by competent personnel who are separate and apart from line supervision and who report directly to management. A competent person is one who is experienced and capable of identifying, evaluating, and documenting that material and processes being used will result in work that complies with the contract, and who has authorization to take prompt action to remove, replace, or correct such work or products not in compliance. Offsite testing laboratories shall be certified or inspected by a nationally recognized entity. The Contractor shall submit to the Contracting Officer, for approval, laboratory certification or inspection information. The contractor shall submit to the contracting officer, for approval, the names, qualifications, authorities, certifications, and availability of the competent personnel who will perform the quality control activities.

## **5. Post-award conference**

The contractor shall meet with the contracting officer before any work begins and discuss the contractor's quality control system. The contracting officer and the contractor shall develop a mutual understanding regarding the quality control system, including procedures for correcting quality control issues.

## **6. Records**

The contractor's quality control records shall document both acceptable and deficient features of the work and corrective actions taken. All records shall be on forms approved by the contracting officer, be legible, and be dated and signed by the competent person creating the record.

Unless otherwise specified in section 10 of this specification, records shall include:

- a. Documentation of shop drawings including date submitted to and date approved by the contracting officer, results of examinations, any need for changes or modifications, manufacturer's recommendations and certifications, if any, and signature of the authorized examiner.
- b. Documentation of material delivered including quantity, storage location, and results of quality control examinations and tests.
- c. Type, number, date, time, and name of individual performing quality control activities.
- d. The material or item inspected and tested, the location and extent of such material or item, and a description of conditions observed and test results obtained during the quality control activity.
- e. The determination that the material or item met the contract provisions and documentation that the engineer was notified.
- f. For deficient work, the nature of the defects, specifications not met, corrective action taken, and results of quality control activities on the corrected material or item.

## **7. Reporting results**

The results of contractor quality control inspections and tests shall be communicated to the engineer immediately upon completion of the inspection or test. Unless otherwise specified in section 10, the original plus one copy of all records, inspections, tests performed, and material testing reports shall be submitted to the engineer within one working day of completion. The original plus one copy of documentation of material delivered shall be submitted to the engineer before the material is used.

## **8. Access**

The contracting officer and the engineer shall be given free access to all testing equipment, facilities, sites, and related records for the duration of the contract.

## **9. Payment**

**Method 1**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds, after presentation by the contractor of invoices showing related costs and evidence

of charges by suppliers, subcontractors, and others for furnishing supplies and work performed. If the total of such payments is less than the lump sum contract price for this item, the remaining balance is included in the final contract payment. Payment of the lump sum contract price constitutes full compensation for completion of the work.

Payment is not made under this item for the purchase cost of material and equipment having a residual value.

**Method 2**—For items of work for which lump sum prices are established in the contract, payment is prorated and paid in equal amounts on each monthly estimate. The number of months used for prorating shall be the number estimated to complete the work. The final month's prorate amount is made with the final payment. Payment as described above constitutes full compensation for completion of the work.

Payment is not made under this item for the purchase cost of material and equipment having a residual value.

**All methods**—Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10.

## **10. Items of work and construction details**

10. Items of work and construction details

In section 3, Quality control system, Method 1 shall apply, except that the written plan shall be submitted to the Contracting Officer within 10 calendar days after notice of award.

In section 4, Quality control personnel, Method 1 shall apply.

In section 9, Payment, Method 2 shall apply.

Items of work to be performed in conformance with this specification and the construction details therefore are:

- a. Bid Item 8, Contractor Quality Control
  - (1) This item shall consist of furnishing all equipment, tools, materials, and labor and performing all work to accomplish the work defined in section 1 of this specification.
  - (2) The burden of proof that work performed meets contract requirements rests upon the Contractor. Quality assurance inspections and tests by the Government are for the sole benefit of the Government. The use of such words as "as approved by the Engineer or Contracting Officer" and words of like import in the specifications or drawings which refer to approval by the Contracting Officer are considered to be a part of the Government's Quality Assurance program and do not relieve the Contractor in any part for the Contractor's quality control responsibilities as specified.
  - (3) Quality Control is defined as a rigorous examination and inspection of construction materials, processes and operations to verify that the work being performed meets contract requirements and shall be performed by a qualified Inspector employed by or under contract to the Contractor.
  - (4) The Contractor's quality control system shall be approved and operational before commencement of work.
  - (5) The Contractor's inspection system shall include the following items of work that will require the Contractor's quality control. Any item of work not listed below shall be performed or constructed as shown on the drawings and as specified in the construction and material specifications.
    - (a) The Contractor's inspection on all items not listed in (b) through (e) below shall consist of periodic review of those items to assure that all contract specifications are being met and that the items are being properly installed or carried out.
    - (b) Site Preparation – Quality control shall consist of full-time inspection of Class C compaction earthfill that accords with the drawings and specifications. The Inspector shall select materials from the required excavations and stockpiles to ensure the completed earthfills are constructed in accordance with the drawings and specifications. The Inspector shall then route the various materials to the proper zones and determine the suitability of each type of material for a particular zone. Quality control tests for moisture and density shall not be required.
    - (c) Ductile-Iron Drainage Pipe - Quality control shall consist of continuous inspection during the installation of the drainage pipe. The Inspector

shall determine and document that the pipe and fittings comply with the specifications, that the joints are watertight, that the perforations are to the size and orientation specified, that the pipe is installed at the lines and grades shown on the drawings and as specified and that the pipe is properly bedded and carefully backfilled.

- (d) Rock Riprap - Quality control shall consist of full-time inspection during delivery and placement of the rock riprap. The Inspector shall also determine that the rock riprap complies with the specified quality and gradation limits; that proper certifications are provided; that the rock is placed as shown on the drawings and as specified; and that segregation of particle sizes has not occurred during delivery and placement. At least one on site gradation test will be made, per gradation (R-150), by the Contractor.
  - (e) Geotextile - Quality control shall consist of continuous inspection during the installation of the geotextile. The Inspector shall determine and document that the geotextile complies with the specifications, that the subgrade has been excavated and smoothed to grade, that the geotextile is installed in accordance with the plans and specifications, and that the geotextile is not punctured, damaged or caked with mud during installation.
- (6) The skills, knowledge, abilities and experience needed by the Contractor's quality control personnel to perform the quality control shall be as follows:
- (a) Must have the ability to maintain communications with the landowners, the Contracting Officer and the Contractor.
  - (b) Knowledge of cut and grade staking and earthwork installations.
  - (c) Knowledge of soils, including foundation conditions, density and classifications.
  - (d) Knowledge of sampling of soils and determination of density of in-place soils.
  - (e) When applicable, must have knowledge of acceptable moisture-density test methods and the ability to satisfactorily perform the tests.
  - (f) Have the ability to interpret survey notes and to prepare quantity computations.
  - (g) Have the ability to maintain adequate files and records of construction inspection work.
  - (h) Have the ability to interpret construction drawings and specifications.
  - (i) Must have knowledge of the United Soil Classification System and the ability to interpret soil classification requirements from the construction drawings.
- (7) Quality control personnel shall also be responsible for maintaining a record of progress with photographs. Construction activities shall be documented with 5 megapixels or greater digital photography in a JPEG file format. Photographs of daily construction work, problems encountered, and unique construction

practices shall be taken to ensure full coverage of all work performed. The photographs shall be numbered, dated and time imprinted and indexed with documentation explaining construction activities shown, and must be submitted with the request for final payment.

## **Construction Specification 95—Geotextile**

### **1. Scope**

This work consists of furnishing all material, equipment, and labor necessary for the installation of geotextiles.

### **2. Quality**

Geotextiles shall conform to the requirements of Material Specification 592 and this specification.

### **3. Storage**

Before use, the geotextile shall be stored in a clean, dry location out of direct sunlight, not subject to extremes of either hot or cold temperatures, and with the manufacturer's protective cover undisturbed. Receiving, storage, and handling at the job site shall be in accordance with the requirements listed in ASTM D4873.

### **4. Surface preparation**

The surface on which the geotextile is to be placed shall be graded to the neat lines and grades as shown on the drawings. It shall be reasonably smooth and free of loose rock and clods, holes, depressions, projections, muddy conditions, and standing or flowing water (unless otherwise specified in section 7 of this specification).

### **5. Placement**

Before the geotextile is placed, the soil surface will be reviewed for quality assurance of the design and construction. The geotextile shall be placed on the approved prepared surface at the locations and in accordance with the details shown on the drawings and specified in section 7 of this specification. It shall be unrolled along the placement area and loosely laid, without stretching, in such a manner that it conforms to the surface irregularities when material or gabions are placed on or against it. The geotextile may be folded and overlapped to permit proper placement in designated area(s).

**Method 1**—The geotextile shall be joined by machine sewing using thread material meeting the chemical requirements for the geotextile fibers or yarn. Thread shall be polypropylene, polyester, or Kevlar<sup>TM</sup> aramid thread, unless a specific thread type is specified. The thread shall be consisting of two parallel stitched rows at a spacing of about 1 inch and shall not cross (except for any required re-stitching). The stitching shall be a lock-type stitch. Each row of stitching shall be located a minimum of 2 inches from the geotextile edge. Unless otherwise specified, the seam tensile strength as measured according to ASTM D4884 shall be a minimum of 90 percent of the geotextile tensile strength in the weakest principal direction as measured according to ASTM D4632.

The geotextile shall be temporarily secured during placement of overlying material to prevent slippage, folding, wrinkling, or other displacement of the geotextile. Unless otherwise specified, methods of securing shall not cause punctures, tears, or other openings to be formed in the geotextile.

**Method 2**—The geotextile shall be joined by overlapping a minimum of 18 inches (unless otherwise specified) and secured against the underlying foundation material. Securing pins, approved and provided by the geotextile manufacturer, shall be placed along the edge of the panel or roll material to adequately hold it in place during installation. Pins shall be steel, or fiberglass formed as a U, L, or T shape or contain "ears" to prevent total penetration through the geotextile. Steel washers shall be provided on all but the U-shaped pins. The upstream or upslope geotextile shall overlap the abutting downslope geotextile. At vertical laps, securing pins shall be inserted through the bottom layers along a line through approximately the mid-point of the overlap. At horizontal laps and across slope laps, securing shall be

inserted through the bottom layer only. Securing pins shall be placed along a line about 2 inches in from the edge of the placed geotextile at intervals not to exceed 12 feet unless otherwise specified. Additional pins shall be installed as necessary and where appropriate to prevent any undue slippage or movement of the geotextile. The use of securing pins will be held to the minimum necessary. Pins are to remain in place unless otherwise specified.

Should the geotextile be torn or punctured, or the overlaps or sewn joint disturbed, as evidenced by visible geotextile damage, subgrade pumping, intrusion, or grade distortion, the backfill around the damaged or displaced area shall be removed and restored to the original approved condition. The repair shall consist of a patch of the same type of geotextile being used and overlaying the existing geotextile. When the geotextile seams are required to be sewn, the overlay patch shall extend a minimum of 1 foot beyond the edge of any damaged area and joined by sewing as required for the original geotextile except that the sewing shall be a minimum of 6 inches from the edge of the damaged geotextile. Geotextile panels joined by overlap shall have the patch extend a minimum of 2 feet from the edge of any damaged area.

Geotextile shall be placed in accordance with the following applicable specification according to the use indicated in section 7:

*Slope protection*—The geotextile shall not be placed until it can be anchored and protected with the specified covering within 48 hours or protected from exposure to ultraviolet light. In no case shall material be dropped on uncovered geotextile from a height of more than 3 feet.

*Subsurface drains*—The geotextile shall not be placed until drainfill or other material can be used to provide cover within the same working day. Drainfill material shall be placed in a manner that prevents damage to the geotextile. In no case shall material be dropped on uncovered geotextile from a height of more than 5 feet.

*Road stabilization*—The geotextile shall be unrolled in a direction parallel to the roadway centerline in a loose manner permitting conformation to the surface irregularities when the roadway fill material is placed on its surface. In no case shall material be dropped on uncovered geotextile from a height of more than 5 feet. Unless otherwise specified, the minimum overlap of geotextile panels joined without sewing shall be 24 inches. The geotextile may be temporarily secured with pins recommended or provided by the manufacturer, but they shall be removed before the permanent covering material is placed.

## **6. Measurement and payment**

**Method 1**—For items of work for which specific unit prices are established in the contract, the quantity of geotextile for each type placed within the specified limits is determined to the nearest specified unit by measurements of the covered surfaces only, disregarding that required for anchorage, seams, and overlaps. Payment is made at the contract unit price. Such payment constitutes full compensation for the completion of the work.

**Method 2**—For items of work for which specific unit prices are established in the contract, the quantity of geotextile for each type placed with the specified limits is determined to the nearest specified unit by computing the area of the actual roll size or partial roll size installed. The computed area will include the amount required for overlap, seams, and anchorage as specified. Payment is made at the contract unit price. Such payment constitutes full compensation for the completion of the work.

**Method 3**—For items of work for which specific lump sum prices are established in the contract, the quantity of geotextile is not measured for payment. Payment for geotextiles is made at the contract lump sum price and constitutes full compensation for the completion of the work.

**All methods**—The following provisions apply to all methods of measurement and payment.

Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7 of this specification.

## **7. Items of work and construction details**



7. Items of work and construction details

In section 5, Placement, Method 2 shall apply. For the plunge basin repair, the geotextile shall be placed as a slope protection underlayment prior to installing rock riprap.

The geotextile shall be placed immediately prior to the placement of the rock riprap. The subgrade shall be approved by the Engineer before placing the geotextile. The placement of the geotextile shall be approved by the Engineer before the rock riprap is installed.

Geotextiles shall be non-woven Class I and meet Material Specification 592.

Items of work to be performed in conformance with this specification and the construction details therefore are:

a. Subsidiary Item, Geotextile

- (1) This item shall consist of furnishing and placing approximately 824 square yards of geotextile under the rock riprap plunge basin and rock-lined channel including all excavation, fill and backfill required for keying geotextile into the ground as shown on the drawings.
- (2) Separate payment will not be made for this item of work. Compensation for this item will be included in the payment for the bid item for Rock Riprap.

## **Construction Specification 420 – Site Preparation**

### **1. Scope**

The work shall consist of the excavation and/or earthfill placement required by the drawings and specifications.

### **2. Classification**

Site preparation consists of a combined volume of required excavation and earthfill ranging from 1000 to 1,200 cubic yards

### **3. Excavation**

Excavations required to prepare the site shall be done in accordance with the requirements of Construction Specification 21. All excavations shall be unclassified excavations. The depths of excavations as shown on the drawings are approximate. The actual depth and extent of excavations will be determined after examination of materials encountered.

Suitable materials resulting from required excavations shall be used for the required earthfills and backfills. Any materials not utilized in the required fills shall be disposed of in the waste area. These materials shall be approved by the Engineer on site prior to placement.

In Construction Specification 21 the following shall apply:

Section 4, Use of excavated material - Method 1 - There is no guarantee that materials obtained from the specified excavations may be used directly in specified fill areas. Stockpiling of selected materials to ensure their availability for use in specific zones of the fill areas may be required. Additional compensation will not be made for stockpiling of excavated materials. Cost for stockpiling of excavated materials shall be included in the compensation for the bid items for Site Preparation.

Section 5, Disposal of waste materials - Method 1 - The disposal of the excavated materials shall include transporting, depositing, and spreading the materials to and on the designated fill or waste areas. The area on which each load of material shall be deposited shall be approved on-site beforehand. The surfaces of waste areas shall be dressed to be reasonably smooth and to be free of mounds, dips, windrows, or depressions which would prevent the safe operation of ordinary farm equipment thereon and the finished surface of waste areas will not be made. Cost for disposal of excavated materials and dressing of the surfaces of waste areas will be included in the compensation for the bid item, Site Preparation.

### **4. Earthfills**

Earthfills required to prepare the site shall be placed in accordance with the requirements of Construction Specification 23. The depth of the stripping for foundation preparation shall not exceed that obtained by assuming a depth of 6 inches.

Compaction for the repair areas as shown on the drawings and all other earthfills shall be Class C and in accordance with section 6 of Construction Specification 23.

Class C compaction shall be accomplished by a minimum of five (5) complete passes of a tamping roller weighing not less than 1,200 pounds per foot of roller width at a towing or traveling speed of 2 m.p.h. or

greater; or an approved equivalent method. Soil moisture content at the time of compaction shall be at or slightly above the plastic limit. A soil is at its plastic limit when a sample can be rolled between the hands to form a 1/8" thread without cracking or breaking apart. Soil that can be rolled to a 1/16" thread without cracking or breaking apart is too wet. Other methods for determining soil moisture content shall be approved by the Engineer. The moisture content of the backfill materials when placed shall be adjusted as necessary to meet the requirements. Fill lifts shall not be more than 9" thick prior to compaction and the maximum allowable particle size shall be 6". Earth backfill lifts adjacent to pipes shall not be more than 6" thick prior to compaction, and the maximum particle size shall be 3".

## **5. Measurement and payment**

Payment shall be made at the contract lump sum price for site preparation. Such payment will constitute full compensation for all labor, equipment, materials and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in section 6 of this specification.

## **6. Items of work and construction details**

6. Items of work and construction details

The waste area is shown on the drawings. Final locations of the waste area shall be designated at the time of site showing.

Site preparation quantities are based on quantities derived from preliminary survey data. Variations in these quantities may be possible when the work is actually performed. However, modification to the contract will not be made for work performed in excess of these estimated quantities except under the following conditions:

- a. The variation must exceed 10% more than the maximum quantity established for the site preparation and have a minimum contract value for the additional work in excess of \$1,000.00. (The contract value is to be determined by dividing the lump sum amount in the bid schedule by the applicable maximum yardage of site preparation shown for the contract item in this specification.) If the variation exceeds 10% and \$1,000.00, the site preparation will be adjusted and paid for at the rate for the adjusted amount.
- b. It is the Contractor's responsibility to submit proof that the estimated site preparation in question exceeds the percentage and cost parameters in item (a) above. Proof will consist of applicable survey data or other measurements made by a qualified surveyor in accordance with recognized professional practice and the contract specifications.
- c. The survey data or other measurements as applicable shall be presented to the Engineer prior to any work on the contract item for which the quantity is questioned. Seven working days shall be provided to the Engineer to verify data prior to the beginning of work for this contract item.
- d. A final survey or other measurements as applicable shall be made and presented to the Engineer after the work is completed which will allow measurement for the quantity in question. If this survey data indicates justification for a contract modification within the parameters of item (a) above, it will be made in accordance with the changes clause contained in the contract.

Items of work to be performed in conformance with this specification and the construction details therefore are:

- a. Bid Item 9, Site Preparation
  - (1) This item shall consist of performing all earthwork activities required for the installation and construction of the ductile-iron trench drain repair and the new rock-riprap lined plunge basin/channel.
  - (2) All low-density materials shall be excavated and wasted as described in section 3.
  - (3) The finished earthfill surfaces, excluding areas to be armored with rock riprap, shall have 6 inches of topsoil placed uniformly over the surface as shown in the construction drawings.
  - (4) The foundation on which earthfill, ductile-iron pipe, and rock riprap is to be placed shall be approved by the Engineer.
  - (5) The items of work subsidiary to this bid item are:
    - (a) Salvaging and Placing Topsoil, as specified in Construction Specification 26.
    - (b) Excavation, Common, Foundation Stripping, as specified in this specification.

- b.      Subsidiary Item, Excavation, Common, Foundation Stripping
  - (1)      This item shall consist of removing weeds, grass, roots and soils containing significant vegetative or organic material from the ground surface (including any waste areas) prior to placing earthfill in required areas. The depth of stripping shall be sufficient to remove the vegetative material and soil containing significant organic matter and is estimated to be 3 to 12 inches (on average). The total required volume of stripping shall not exceed that obtained by assuming a depth of 6 inches.
    - (a)      Separate payment will not be made for this item. Compensation for this item will be included in the payment for the bid item Site Preparation.

## Material Specification 523—Rock for Riprap

### 1. Scope

This specification covers the quality of rock to be used in the construction of rock riprap.

### 2. Quality

Individual rock fragments must be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. Except as otherwise specified, the rock fragments must be angular to subrounded. The least dimension of an individual rock fragment must not be less than one-third the greatest dimension of the fragment. ASTM D4992 provides guidance on selecting rock.

Except as otherwise provided, the rock must be tested and must have the following properties:

#### Rock type 1

- **Bulk specific gravity (saturated surface-dry basis)**—Not less than 2.5 when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Absorption**—Not more than 2 percent when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Soundness**—The weight loss in five cycles must not be more than 10 percent when sodium sulfate is used or more than 15 percent when magnesium sulfate is used.

#### Rock type 2

- **Bulk specific gravity (saturated surface-dry basis)**—Not less than 2.5 when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Absorption**—Not more than 2 percent when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Soundness**—The weight loss in five cycles must be not more than 20 percent when sodium sulfate is used or more than 25 percent when magnesium sulfate is used.

#### Rock type 3

- **Bulk specific gravity (saturated surface-dry basis)**—Not less than 2.3 when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Absorption**—Not more than 4 percent when tested in accordance with ASTM D6473 on samples prepared as described for soundness testing.
- **Soundness**—The weight loss in five cycles must be not more than 20 percent when sodium sulfate is used or more than 25 percent when magnesium sulfate is used.

### 3. Methods of soundness testing

**Rock cube soundness**—The sodium or magnesium sulfate soundness test for all rock types (1, 2, or 3) must be performed on a test sample of  $5,000 \pm 300$  grams of rock fragments, reasonably uniform in size and cubical in shape, and weighing, after sampling, about 100 grams each. They must be obtained from rock samples that are representative of the total rock mass, as noted in ASTM D4992, and that have been sawed into slabs as described in ASTM D5121. The samples must further be reduced in size by sawing the slabs into cubical blocks. The thickness of the slabs and the size of the sawed fragments must be determined by the size of the available test apparatus and as necessary to provide, after sawing, the approximate 100-gram samples. The cubes must undergo five cycles of soundness testing in accordance with ASTM C88.

Internal defects may cause some of the cubes to break during the sawing process or during the initial soaking period. Do not test any of the cubes that break during this preparatory process. Such breakage, including an approximation of the percentage of cubes that break, must be noted in the test report.

After the sample has been dried following completion of the final test cycle and washed to remove the sodium sulfate or magnesium sulfate, the loss of weight must be determined by subtracting from the original weight of the sample the final weight of all fragments that have not broken into three or more fragments.

The test report must show the percentage loss of the weight and the results of the qualitative examination.

**Rock slab soundness**—When specified, the rock must also be tested in accordance with ASTM D5240.

Deterioration of more than 25 percent of the number of blocks is cause for rejection of rock from this source. Rock must also meet the requirements for average percent weight loss stated below.

- For projects located north of the Number 20 Freeze-Thaw Severity Index Isoline (fig. 523–1), unless otherwise specified, the average percent weight loss for Rock Type 1 must not exceed 20 percent when sodium sulfate is used or 25 percent when magnesium sulfate is used. For Rock Types 2 and 3, the average percent weight loss must not exceed 25 percent for sodium sulfate soundness or 30 percent for magnesium sulfate soundness.
- For projects located south of the Number 20 Freeze-Thaw Severity Index Isoline, unless otherwise specified, the average percent weight loss for Rock Type 1 must not exceed 30 percent when sodium sulfate is used or 38 percent when magnesium sulfate is used. For Rock Types 2 and 3, the average percent weight loss must not exceed 38 percent for sodium sulfate soundness or 45 percent for magnesium sulfate soundness.

#### **4. Field durability inspection**

Rock that fails to meet the material requirements stated above (if specified), may be accepted only if similar rock from the same source has been demonstrated to be sound after 5 years or more of service under conditions of weather, wetting and drying, and erosive forces similar to those anticipated for the rock to be installed under this specification.

A rock source may be rejected if the rock from that source deteriorates in less than 5 years under similar use and exposure conditions expected for the rock to be installed under this specification, even though it meets the testing requirements stated above.

Deterioration is defined as the loss of more than one-quarter of the original rock volume, or severe cracking that would cause a block to split. Measurements of deterioration are taken from linear or surface area particle counts to determine the percentage of deteriorated blocks. Deterioration of more than 25 percent of the pieces is cause for rejection of rock from the source.

#### **5. Grading**

The rock must conform to the specified grading limits after it has been placed within the matrix of the rock riprap. Grading tests must be performed, as necessary, according to ASTM D5519, Method A, B, or C, as applicable.

**Figure 523-1** Number 20 Freeze-Thaw Severity Index Isoline (map approximates the map in ASTM D5312)





## **Material Specification 553—Ductile Iron Pipe**

### **1. Scope**

This specification covers the quality of ductile iron pipe and fittings.

### **2. Pipe**

Ductile iron pipe shall conform to the requirements of ANSI/AWWA C151/A21.51, Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand Lined Molds for Water or Other Liquids, and ANSI/AWWA C115/A21.15, Flanged Ductile Iron Pipe with Threaded Flanges.

### **3. Fittings**

Ductile-iron pipe fittings shall conform to the requirements of ANSI/AWWA C110/A21.10, Ductile Iron and Gray Iron Fittings, 3 through 48 inch, for Water and Other Liquids, and ANSI/AWWA C153/A21.53, Ductile Iron Compact Fittings, 3 through 12 inch, for Water and Other Liquids.

### **4. Joints**

Rubber-gasket joints for ductile iron pipe and fittings where either mechanical or push-on joints are used shall conform to the requirements of ANSI/AWWA C111/A21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.

### **5. Lining**

Interior lining for ductile-iron pipe and fittings shall conform to the requirements of ANSI/AWWA C104/A21.4, Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water.

### **6. Encasement**

Encasement for ductile iron pipe and fittings shall conform to the requirements of ANSI/AWWA C105/A21.5, Polyethylene Encasement for Ductile Iron Pipe for Water and Other Liquids.

## Material Specification 581—Metal

### 1. Scope

This specification covers the quality of steel and aluminum alloys.

### 2. Structural steel

- Structural steel shall conform to the requirements of ASTM A 36.
- High-strength low-alloy structural steel shall conform to ASTM A 242 or A 588.
- Carbon steel plates of structural quality to be bent, formed, or shaped cold shall conform the ASTM A 283, Grade C.
- Carbon steel sheets of structural quality shall conform to ASTM Standard A 1011, Grade 40, or A 1008, Grade 40.
- Carbon steel strip of structural quality shall conform to ASTM Standard A 1011, Grade 36.

### 3. Commercial or merchant quality steel

Commercial or merchant quality steel shall conform to the requirements of the applicable ASTM listed below:

Product	ASTM standards
Carbon steel bars.....	A 575, Grade M 1015 to Grade M 1031
Carbon steel sheets.....	A 1011
Carbon steel strip.....	A 1011
Zinc-coated carbon steel sheets...	A 653 or A 924

### 4. Aluminum alloy

Aluminum alloy products shall conform to the requirements of the applicable ASTM standard listed below. Unless otherwise specified, alloy 6061-T6 shall be used.

Product	ASTM standard
Standard structural shape.....	B 308
Extruded structural pipe and tube.....	B 429
Extruded bars, rods, shapes, and tubes.....	B 221
Drawn seamless tubes.....	B 210
Rolled or cold-finished bars, rods, and wire .....	B 211
Sheet and plate.....	B 209

### 5. Bolts

Steel bolts shall conform to the requirements of ASTM Standard A 307. If high-strength bolts are specified, they shall conform to the requirements of ASTM A 325.

When galvanized or zinc-coated bolts are specified, the zinc coating shall conform to the requirements of ASTM Standard A 153 except that bolts 0.5 inch or less in diameter may be coated with electro-deposited zinc or cadmium coating conforming to the requirements of ASTM Standard B 633, Service Condition SC 3, or ASTM B 766, unless otherwise specified.

### 6. Rivets

Unless otherwise specified, steel rivets shall conform to the requirements of ASTM Specification A 31, Grade B. Unless otherwise specified, aluminum alloy rivets shall be Alloy 6061 conforming to the requirements of ASTM Standard B 316.

## **7. Welding electrodes**

Steel welding electrodes shall conform to the requirements of American Welding Society Specification AWS A5.1, "Specification for Mild Steel Covered Arc-Welding Electrodes," except that they shall be uniformly and heavily coated (not washed) and shall be of such a nature that the coating does not chip or peel while being used with the maximum amperage specified by the manufacturer.

Aluminum welding electrodes shall conform to the requirements of American Welding Society Specification AWS A5.10, "Specification for Aluminum and Aluminum-Alloy Welding Rods and Bare Electrodes."

## **Material Specification 582 – Galvanizing**

### **1. Scope**

This specification covers the quality of zinc coating applied to iron and steel productions.

### **2. Quality**

Zinc coatings shall conform to the requirements of ASTM A123 for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products or as otherwise specified in the items of work and construction details of the Construction Specification.

ASTM A123 covers both fabrication and nonfabricated products; e.g., assembled steel products, structural steel fabrications, large tubes already bent or welded before galvanizing, and wire work fabricated from noncoated steel wire. It also covers steel forgings and iron castings incorporated into pieces fabricated before galvanizing or which are too large to be centrifuged (or otherwise handled to remove excess galvanizing bath metal). Items to be centrifuged or otherwise handled to remove excess zinc shall meet the requirements of ASTM A153, except bolts, screws, and other fasteners 0.5 inch or less in diameter may be coated with electro-deposited zinc or cadmium coating conforming to the requirements of ASTM B766, coating thickness Class 5, Type III, or ASTM B633, Service Condition SC-3, unless otherwise specified.

## **Material Specification 591—Field Fencing Material**

### **1. Scope**

This specification provides the minimum quality requirements for the material used in the construction of field fences.

### **2. Wire gauge**

When the size of steel wire is designated by gage number, the diameter must be as defined for U.S. Steel Wire Gauge.

### **3. Fencing**

Fencing material must conform to the requirements of ASTM A121 for barbed wire, ASTM A16 for woven wire, ASTM A390 for poultry fence or netting, and ASTM A854 for high-tensile wire<sup>1</sup>. Barbed wire and woven wire must be class-3 zinc coated as specified in ASTM A641 unless otherwise specified. High-tensile wire must have type-I zinc coating unless otherwise specified.

### **4. Stays, fasteners, and tension wire**

Stays and fasteners must conform to the requirements of the specified ASTM for the fencing material. Tension wires must have a tensile strength not less than 58,000 pounds per square inch. Stays, fasteners, and tension wire must have class-3 zinc coating as specified in ASTM A641 unless otherwise specified.

### **5. Wood fence posts and braces**

Unless otherwise specified, wood posts must be naturally rot resistant, preservative-treated, or other wood of equal life and strength. At least half the diameter or diagonal dimension of naturally rot resistant posts must be in heartwood. Provide new wood posts that are sound, free from decay with all limbs trimmed substantially flush with the body. All posts must be substantially straight throughout their full length.

Make tops convex rounded or inclined. Provide posts free of ring shake, season cracks more than ¼-inch wide, splits in the end, and unsound knots. Pine must be pressure treated in conformance with Material Specification 585, Wood Preservatives and Treatment. Wood braces must be of wood material equal to or better than construction grade Douglas fir. Wood braces must be pressure treated in conformance with Material Specification 585.

### **6. Steel fence posts and braces**

Steel fence posts must conform to the requirements of ASTM A702. Posts with punched tabs for fastening the wires must not be installed. Bracing pipes must conform to the requirements of ASTM A53 except that the A53 requirements for hydrostatic test will not apply.

### **7. Concrete fence posts**

Concrete fence posts must be manufactured to the specified requirements of size, shape, and strength.

### **8. Panel gates**

Panel gates must be the specified types, sizes, and quality and include the necessary fittings required for installation. Gates must be of rigid construction free from sag or twist. The fittings must consist of not less than two hinges and one latch or galvanized chain for fastening. Latches must be of such design that a padlock maybe used for locking. All fittings must be of equal or greater quality than the gate manufacturer's standard.

### **9. Wire gates**

Wire gates must be the type shown on the drawings, constructed in accordance with specifications, at the locations, and to the dimensions shown on the drawings. The material must conform to the kinds, grades, and sizes specified for new fence, and must include the necessary fittings and stays.

### **10. Staples**

Staples required to secure the fence wire to wood posts must be 9-gauge galvanized wire with a minimum length of 1.5 inches for soft woods and a minimum length of 1 inch for close-grain hardwoods.

**11. Galvanizing**

All iron and steel fencing material, except as otherwise specified, must be zinc coated by the hot dip process meeting the requirements of Material Specification 582. Clips, bolts, and other small hardware must be protected by hot-dipped galvanizing, electro-deposited zinc, or cadmium coating.

## **Material Specification 592—Geotextile**

### **1. Scope**

This specification covers the quality of geotextile, including geotextile for temporary silt fence.

### **2. General Requirements**

Fiber (thread and yarn) used in the manufacture of geotextile must consist of synthetic polymer composed of a minimum of 85 percent by weight polypropylene, polyester, polyamide, polyethylene, polyolefin, or polyvinylchloride. The fiber must be formed into a stable network of filaments retaining dimensional stability relative to each other. The geotextile must be free of defects such as holes, tears, and abrasions. The geotextile must be free of any chemical treatment or coating that significantly reduces its porosity. Fibers must contain stabilizers, inhibitors, or both to enhance resistance to ultraviolet light. Geotextile, other than that used for temporary silt fence, must conform to the requirements in tables 592–1 or 592–2, as applicable. Geotextile used for temporary silt fence must conform to ASTM D6461.

Thread used for factory or field sewing must be of a color contrasting to the color of the fabric and made of high-strength polypropylene, polyester, or polyamide material. It must be as resistant to ultraviolet light as the geotextile being sewn.

### **3. Classification**

There are two geotextile classifications, woven and nonwoven. Geotextile for temporary silt fence may be either woven or nonwoven. Slit film woven geotextile may not be used except for temporary silt fence.

Woven geotextiles are made from fabric that is formed by the uniform and regular interweaving of the threads or yarns in two directions. Woven fabrics must be manufactured from monofilament yarn formed into a uniform pattern with distinct and measurable openings, retaining their position relative to each other. The fabric must have a selvedge edge or otherwise be finished to prevent unraveling.

Nonwoven geotextiles are made from fabric that is formed by a random placement of threads in a mat and bonded by needle punching, heat bonding, or resin bonding. Nonwoven geotextile must have distinct but variable small openings, retaining their position relative to each other when bonded. The use of heat- or resin-bonded nonwovens is restricted as specified in note 2 of table 592-2.

### **4. Sampling and Testing**

The geotextile must conform to tables 592–1, 592–2, or ASTM D6461 as applicable for the product type shown on the label. Documentation described in either a. or b. below is required to verify the product meets the specified requirements:

- a. Product properties as listed in the latest edition of the "Specifiers Guide," Geosynthetics (Industrial Fabrics Association International, 1801 County Road B, West Roseville, MN 55113-4061 or at <http://www.geosindex.com>), and that represent average roll values, are acceptable.
- b. Test data from the geotextile production run for each of the specified tests listed in tables 592–1, 592–2, or ASTM D6461, as applicable.

### **5. Shipping and Storage**

Each roll of geotextile must be labeled or tagged to clearly identify the brand, class, and the individual production run in accordance with ASTM D4873. The geotextile must be shipped and transported in rolls wrapped with a cover for protection from moisture, dust, dirt, debris, and ultraviolet light. The cover must be maintained undisturbed to the maximum extent possible before placement.

**Table 592–1** Requirements for woven geotextiles <sup>1/</sup>

Property	Test method	Class I	Class II	Class III	Class IV
Grab tensile strength (lb)	ASTM D4632	247 minimum	180 minimum	180 minimum	315
Elongation at failure (%)	ASTM D4632	<50	<50	<50	<50
Trapezoidal tear strength (lb)	ASTM D4533	90 minimum	67 minimum	67 minimum	112 minimum
Puncture strength (lb)	ASTM D6241	495 minimum	371 minimum	371 minimum	618 minimum
Ultraviolet stability (% retained strength)	ASTM D4355	50 minimum	50 minimum	50 minimum	70 minimum
Permittivity (sec <sup>-1</sup> )	ASTM D4491		as specified		
Apparent opening size (AOS) <sup>2/</sup>	ASTM D4751		as specified		
Percent open area (POA) (%)	USACE <sup>3/</sup> CWO-02215-86		as specified		

1/ All values are minimum average roll values (MARV) in the weakest principal direction, unless otherwise noted.

2/ Maximum average roll value.

3/ Note: CWO is a USACE reference.



**Table 592–2** Requirements for nonwoven geotextiles <sup>1/</sup>

Property	Test method	Class I <sup>2/</sup>	Class II <sup>2/</sup>	Class III <sup>2/</sup>	Class IV <sup>2/</sup>
Grab tensile strength (lb)	ASTM D4632 grab test	202 minimum	157 minimum	112 minimum	202 minimum
Elongation at failure (%)	ASTM D4632	50 minimum	50 minimum	50 minimum	50 minimum
Trapezoidal tear strength (lb)	ASTM D4533	79 minimum	56 minimum	40 minimum	79 minimum
Puncture strength (lb)	ASTM D6241	433 minimum	309 minimum	223 minimum	433 minimum
Ultraviolet light (retained strength) (%)	ASTM D4355	50 minimum	50 minimum	50 minimum	50 minimum
Permittivity sec <sup>−1</sup>	ASTM D4491	0.70 minimum or as specified			
Apparent opening size (AOS) (mm) <sup>3/</sup>	ASTM D4751	0.22 maximum or as specified			

1/ All values are minimum average roll values (MARV) in the weakest principal direction, unless otherwise noted.

2/ Needle punched geotextiles may be used for all classes. Heat-bonded or resin-bonded geotextiles may be used for class IV only.

3/ Maximum average roll value

## **PART VI**

# **PREVAILING WAGE RATES DETERMINATION**

**Per PART III – Supplemental Conditions**

**Article 8 – Wages / Benefits**

**PART VI**  
**PREVAILING WAGE RATES DETERMINATION**  
**[Per PART III – Supplemental Conditions, Article 8 – Wages / Benefits]**  
**Heavy & Highway Construction (includes Hays County, Texas)**

Occupation	Rate	Occupation	Rate
Cement Mason/Concrete Finisher (Paving and Structures)	\$12.56	POWER EQUIPMENT OPERATOR	
Electrician	26.35	Front End Loader, 3 CY or less	\$13.04
Form Builder/Setter (Paving & Curb)	12.94	Front End Loader, over 3 CY	13.21
Form Builder/Setter (Structures)	12.87	Loader / Backhoe	14.12
Laborer: Asphalt Raker	12.12	Mechanic	17.10
Laborer: Flagger	* 9.45	Milling Machine	14.18
Laborer: Common	*10.50	Motor Grader, Fine Grade	18.51
Laborer: Utility	12.27	Motor Grader, Rough	14.63
Laborer: Pipelayer	12.79	Pavement Marking Machine	19.17
Laborer: Work Zone Barricade Servicer	11.85	Reclaimer / Pulverizer	12.88
Painter (Structures)	18.34	Roller, Asphalt	12.78
POWER EQUIPMENT OPERATOR		Roller, Other	*10.50
Agricultural Tractor	12.69	Scraper	12.27
Asphalt Distributor	15.55	Spreader Box	14.04
Asphalt Paving Machine	14.36	Trenching Machine, Heavy	18.48
Boom Truck	18.36	Servicer	14.51
Broom or Sweeper	11.04	STEEL WORKER	
Concrete Pavement Finishing Machine	15.48	Reinforcing	14.00
Crane, Hydraulic 80 tons or less	18.36	Structural	19.29
Crane, Lattice Boom 80 tons or less	15.87	TRAFFIC SIGNAL INSTALLER	
Crane, Lattice Boom over 80 tons	19.38	Traffic Signal/Light Pole Worker	16.00
Crawler Tractor	15.67	TRUCK DRIVER	
Directional Drilling Locator	11.67	Lowboy-Float	15.66
Directional Drilling Operator	17.24	Off Road Hauler	11.88
Excavator 50,000 lbs. or less	12.88	Single Axle	11.79
Excavator over 50,000 lbs.	17.71	Single or Tandem Axel Dump Truck	11.68
Foundation Drill, Truck Mounted	16.93	Tandem Axel Trailer w/Semi Trailer	12.81
		Welder	15.97

Notes: \* Per Executive Order 13658, hourly minimum wage for calendar year 2020 is **\$10.80 per hour**.

Welders receive rate prescribed for craft performing operation to which welding is incidental.