IFB No. W912EP-04-B-0005

US Army Corps
of Engineers
Jacksonville District

Estate Mon Bijou
Flood Control Channel

St. Croix, U.S. Virgin Islands

Construction Solicitation
and Specifications

VALUE ENGINEERING

INCREASE PROFITS
SUBMIT VECP'S

7 APRIL 2004

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0003	21-May-2004		

6. ISSUED BY CODE W912EP

USA ENGINEER DISTRICT, JACKSONVILLE
PRUDENTIAL OFFICE BLDG
701 SAN MARCO BLVD
ATTN: CESAJ-CT
JACKSONVILLE FL 32207-8175

7. ADMINISTERED BY (If other than item 6) CODE

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

CODE FACILITY CODE

X	9A. AMENDMENT OF SOLICITATION NO. W912EP-04-B-0005
X	9B. DATED (SEE ITEM 11) 07-Apr-2004
	10A. MOD. OF CONTRACT/ORDER NO.
	10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Estate Mon Bijou, Flood Control Channel, St. Croix, U.S. Virgin Islands

Any enclosures accompying this amendment should be inserted in the plans and/or specifications as applicable. All superceded material should be removed or adequately marked to indicate that they have been superceded.

Bid Opening Date is changed from 25 May 2004 at 2:00 PM to 10 June 2004 at 2:00PM.

See attached SF30 Continuation Page.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 21-May-2004

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SPECIFICATIONS: Specifications for this project have been updated.

a. Asterisks appear before and after the line or lines where revisions have been made to the text on the enclosed revised pages and pertain only to the changes made by this amendment except where the reverse side of a page has been previously amended; however, these can be identified by the amendment number opposite the page number at the bottom of each page.

b. Some specification revisions include additions with underlined text or deletions with line/cross-outs.

c. The text changes may have necessitated reformatting of subsequent text or pages. If this is the case, those pages have also been issued as amended pages but are not marked with asterisks, underlining or line/cross-outs.

d. The following Sections have been replaced by this amendment:

Section 00010 (Standard Form 1442)
Section 00010A
Project Table of Contents
Section 01110
Section 01270
Submittal Register
Section 01500
Section 01550

e. The following Section has been added by this amendment:

Section 02220

DRAWINGS: The following drawings have been revised (see Revision Block) per this amendment:

1. Drawing 2/2.
2. Drawing 2/3.

REFERENCE: A reference is posted as D63501.pdf under the title "Department of Public Works, Office of Highway Engineering, Detail, Mon Bijou Flood Control, Traffic Control Plan or Traffic Control Devices" with 7 sheets.

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0002	14-May-2004		

6. ISSUED BY CODE W912EP

USA ENGINEER DISTRICT, JACKSONVILLE
PRUDENTIAL OFFICE BLDG
701 SAN MARCO BLVD
ATTN: CESAJ-CT
JACKSONVILLE FL 32207-8175

7. ADMINISTERED BY (If other than item 6) CODE

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

CODE FACILITY CODE

X	9A. AMENDMENT OF SOLICITATION NO. W912EP-04-B-0005
X	9B. DATED (SEE ITEM 11) 07-Apr-2004
	10A. MOD. OF CONTRACT/ORDER NO.
	10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Estate Mon Bijou, Flood Control Channel, St. Croix, U.S. Virgin Islands

This solicitation is temporarily postponed.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 14-May-2004

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES	
	1	2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0001	10-May-2004		

6. ISSUED BY CODE W912EP

USA ENGINEER DISTRICT, JACKSONVILLE
PRUDENTIAL OFFICE BLDG
701 SAN MARCO BLVD
ATTN: CESAJ-CT
JACKSONVILLE FL 32207-8175

7. ADMINISTERED BY (If other than item 6) CODE

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

CODE FACILITY CODE

X	9A. AMENDMENT OF SOLICITATION NO. W912EP-04-B-0005
X	9B. DATED (SEE ITEM 11) 07-Apr-2004
	10A. MOD. OF CONTRACT/ORDER NO.
	10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [ ] is extended, [X] is not extended.

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12. ACCOUNTING AND APPROPRIATION DATA (If required)

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[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Estate Mon Bijou, Flood Control Channel, St. Croix, U.S. Virgin Islands

The plans and specifications have been revised.
See SF 30 continuation sheet (page 2 of 2) for Sections and Drawings that have been replaced by this amendment.

Bid Opening Date remains 25 May 2004 at 2:00PM.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 07-May-2004

SECTION SF-30 BLOCK 14 CONTINUATION PAGE

SPECIFICATIONS: Specifications for this project have been updated.

a. Asterisks appear before and after the line or lines where revisions have been made to the text on the enclosed revised pages and pertain only to the changes made by this amendment except where the reverse side of a page has been previously amended; however, these can be identified by the amendment number opposite the page number at the bottom of each page.

b. Some specification revisions include additions with underlined text or deletions with line/cross-outs.

c. The text changes may have necessitated reformatting of subsequent text or pages. If this is the case, those pages have also been issued as amended pages but are not marked with asterisks, underlining or line/cross-outs.

The following Sections have been replaced by this amendment:

Section 00010 (Standard Form 1442)
Section 00010A
Section 00700
Section 01110
Section 01270
Submittal Register
Section 01500
Section 01550
Section 02371A

DRAWINGS: The following drawings have been revised (see Revision Block) per this amendment:

1. Drawing 2/5.
2. Drawing 4/1.
3. Drawing 6/9.
4. Drawing 7/1.

Estate Mon Bijou
Flood Control Channel ~~and Bridges~~

IFB No. W912EP-04-B-0005

DESIGN AUTHENTICATION

This project was designed by the Jacksonville District, U. S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.

PAUL E. STROUP, JR.
CHIEF, STRUCTURES SECTION
DESIGN BRANCH, ENGINEERING DIVISION

W. B. FARLEY
CHIEF, LEVEES AND WATERWAYS SECTION
DESIGN BRANCH, ENGINEERING DIVISION

THOMAS J. LEICHT, P.E.
CHIEF, DESIGN BRANCH
ENGINEERING DIVISION

LUIS A. RUIZ, P.E.
CHIEF, GEOTECHNICAL BRANCH
ENGINEERING DIVISION

for STEPHEN C. DUBA, P.E.
CHIEF, ENGINEERING DIVISION

SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. W912EP-04-B-0005-0003	2. TYPE OF SOLICITATION [X] SEALED BID (IFB) [ ] NEGOTIATED *(RFP)*	3. DATE ISSUED 07-Apr-2004	PAGE OF PAGES 1 OF 133

IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.

7. ISSUED BY CODE W912EP	8. ADDRESS OFFER TO *(If Other Than Item 7)* CODE W912EP
USA ENGINEER DISTRICT, JACKSONVILLE PRUDENTIAL OFFICE BLDG 701 SAN MARCO BLVD ATTN: CESAJ-CT JACKSONVILLE FL 32207-8175 TEL: FAX:	ANTILLES CONSTRUCTION OFFICE 400 FERNANDEZ JUNCOS AVE SAN JUAN PR 00901 TEL: FAX:

9. FOR INFORMATION CALL:	A. NAME KATRINA L DENSON	B. TELEPHONE NO. *(Include area code)* *(NO COLLECT CALLS)* 904-232-1143

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying no., date):*

Estate Mon Bijou, Flood Control Channel, St. Croix, U.S. Virgin Islands

Drawing File No. 109-36,488 dated August 1993, 31 Sheets Plus the Cover

Description of Work: Refer to Section 01110

Magnitude of Construction is between $5,000,000.00 and $10,000,000.00.

This solicitation is being advertised unrestricted Pursuant to PL 100-656 under the Small Business Competitiveness Demonstration Program. All responsible bidders are encouraged to participate.

You must be registered in the Central Contractor Registration in Order to be eligible to receive an award from this solicitation. Call 1-888-227-2423 for information or visit the following website http://www.ccr.gov/ for more information.

NOTE: BLOCK 13.A., Bid Opening will be at the Antilles Office, 400 Fernandez Juncos Avenue, San Juan, Puerto Rico. The Bid Box is located on the First Floor (Conference Room).

11. The Contractor shall begin performance within 30 calendar days and complete it within 420 calendar days after receiving [ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable. *(See* Section 00700 *.)*

12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? *(If "YES," indicate within how many calendar days after award in Item 12B.)* [X] YES [ ] NO	12B. CALENDAR DAYS 10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 1 copies to perform the work required are due at the place specified in Item 8 by 02:00 PM *(hour)* local time 10 Jun 2004 *(date).* If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee [X] is, [ ] is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER *(Must be fully completed by offeror)*

14. NAME AND ADDRESS OFFEROR *(Include ZIP Code)*

15. TELEPHONE NO. *(Include area code)*

16. REMITTANCE ADDRESS *(Indicate only if different than item 14)*

CODE FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. *(Insert any amount equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any numbers means the offeror accepts the minimum in Item 13D.)*

AMOUNTS > >

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*

20B. SIGNATURE

20C. OFFER DATE

AWARD *(To be completed by Government)*

21. ITEMS ACCEPTED:

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)* ITEM 26

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )

26. ADMINISTERED BY K360EC0

ANTILLES - SAN JUAN OFFICE
USA CORPS OF ENGINEERS ((CESAJ-CO-DS)
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PR 00901-3299

27. PAYMENT WILL BE MADE BY t0b0200

USACE FINANCE CENTER
5722 INTEGRITY DRIVE
ATTN: CEFC-AO-P
MILLINGTON, TN 38054-5005

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _____ copies to issuing office).* Contractor agrees to furnish and deliver all items or perform all work, requirements identified on this form and any continuation sheets for the consideration slated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitations, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

☐ 29. AWARD *(Contractor is not required to sign this document).* Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or print)*

31A. NAME OF CONTRACTING OFFICER *(Type or print)*

30B SIGNATURE

30C. DATE

31B. UNITED STATES OF AMERICA

BY

31C. AWARD DATE

SECTION 00010A
LINE ITEMS AND PRICING SCHEDULE

ESTATE MON BIJOU, FLOOD CONTROL CHANNEL
ST. CROIX, U.S. VIRGIN ISLANDS

LINE ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
0001	MOBILIZATION AND DEMOBILIZATION		LUMP SUM		$_____
0002	CLEARING AND GRUBBING		LUMP SUM		$_____
0003	CHANNEL EXCAVATION (ESTIMATED QUANTITY)	361,000	CUBIC YARD	$_____	$_____
0004	LEVEE FILL (ESTIMATED QUANTITY)	5,500	CUBIC YARD	$_____	$_____
0005	GEOTEXTILE FABRIC (ESTIMATED QUANTITY)	551,000	SQUARE FOOT	$_____	$_____
0006	GABIONS (ESTIMATED QUANTITY)	19,600	CUBIC YARD	$_____	$_____
0007	CATTLE CROSSING		LUMP SUM		$_____
0008	FARM POND CLAY LINING (ESTIMATED QUANTITY)	4,500	CUBIC YARD	$_____	$_____
0009	ACCESS ROADS (ESTIMATED QUANTITY)	4,730	SQUARE YARD	$_____	$_____
0010	FARM FENCE (ESTIMATED QUANTITY)	6,200	LINEAR FOOT	$_____	$_____
0011	CHAIN LINK FENCE (ESTIMATED QUANTITY)	7,600	LINEAR FOOT	$_____	$_____
0012	WATER LINE RELOCATION				
0012AA	12-INCH WATER MAIN (ESTIMATED QUANTITY)	250	LINEAR FOOT	$_____	$_____
0012AB	6-INCH WATER LINE (ESTIMATED QUANTITY)	810	LINEAR FOOT	$_____	$_____
0012AC	REMOVAL OF 6-INCH PIPE (ESTIMATED QUANTITY)	540	LINEAR FOOT	$_____	$_____
0012AD	REMOVAL OF 4-INCH PIPE (ESTIMATED QUANTITY)	600	LINEAR FOOT	$_____	$_____
0013	TEMPORARY HIGHWAY 73 BYPASS		LUMP SUM		$_____
0014	PUBLIC ROAD REPAIR (ESTIMATED QUANTITY)	2,000	SQUARE YARD	$_____	$_____
*0015	DEMOLITION OF EXISTING STRUCTURES		LUMP SUM		$_____
	TOTAL BID (LINE ITEMS 0001 THROUGH 0015)				$_____*

NOTES: (1) BIDDERS MUST BID ON ALL LINE ITEMS. SEE PROVISION AT 52.214-18 (SECTION 00100).

(2) ESTIMATED QUANTITY FOR LINE ITEMS 0003 AND 0004 DO NOT INCLUDE TOLERANCES (SEE SECTION 01270). BIDDERS ARE RESPONSIBLE FOR CONSIDERING THE COST OF TOLERANCES THEY REQUIRE, AND INCLUDE THESE COSTS IN THE UNIT PRICE.

Section 00100 - INSTRUCTIONS TO OFFERORS/EVALUATION FACTORS FOR AWARD

CLAUSES INCORPORATED BY FULL TEXT

52.204-6	DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER
52.211-2	AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) AND DESCRIPTIONS LISTED IN THE ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS CONTROL LIST, DOD 5010.12-L
52.214-3	AMENDMENTS TO INVITATIONS FOR BIDS
52.214-4	FALSE STATEMENTS IN BIDS
52.214-5	SUBMISSION OF BIDS
52.214-6	EXPLANATION TO PROSPECTIVE BIDDERS
52.214-7	LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS
52.214-18	PREPARATION OF BIDS-CONSTRUCTION
52.214-19	CONTRACT AWARD-SEALED BIDDING-CONSTRUCTION
52.214-34	SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE
52.214-35	SUBMISSION OF OFFERS IN U.S. CURRENCY
52.216-1	TYPE OF CONTRACT
52.222-23	NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION
52.225-12	NOTICE OF BUY AMERICAN ACT REQUIREMENT - CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS
52.233-2	SERVICE OF PROTEST (AUG 1996) (CESAJ ADAPTATION)
52.236-27 (Alt I)	SITE VISIT (CONSTRUCTION) (FEB 1995) (ALTERNATE I) (FEB 1995) (CESAJ ADAPTATION)
52.252-5	AUTHORIZED DEVIATIONS IN PROVISIONS
252.225-7031	SECONDARY ARAB BOYCOTT OF ISRAEL
998.214-1	EFARS 52.214-5000 ARITHMETIC DISCREPANCIES
999.204-4001	DISTRIBUTING SOLICITATION AMENDMENTS
999.214-4000	OBTAINING INFORMATION REGARDING THIS SOLICITATION
999.214-4018	BIDDER'S CHECKLIST -- CONSTRUCTION/DREDGING CONTRACTS

999.219-4002 SUBCONTRACTING PLAN GOALS

999.219-4003 SOURCES FOR ASSISTANCE IN LOCATING SMALL BUSINESS SUBCONTRACTORS

Section 00100 - INSTRUCTIONS TO OFFERORS/EVALUATION FACTORS FOR AWARD

CLAUSES INCORPORATED BY FULL TEXT

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS+4” followed by the DUNS number or “DUNS+4” that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet, Inc. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11) for the same parent concern.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business name.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company physical street address, city, state and Zip Code.

(iv) Company mailing address, city, state and Zip Code (if separate from physical).

(v) Company telephone number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(End of provision)

52.211-2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) AND DESCRIPTIONS LISTED IN THE ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS CONTROL LIST, DOD 5010.12-L (JAN 2004)

Copies of specifications, standards, and data item descriptions cited in this solicitation may be obtained--

(a) From the ASSIST database via the Internet at http://assist.daps.dla.mil; or

(b) By submitting a request to the--Department of Defense Single Stock Point (DoDSSP), Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2179, Facsimile (215) 697-1462.

(End of provision)

52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989)

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on the form for submitting a bid, (3) by letter or telegram, or (4) by facsimile, if facsimile bids are authorized in the solicitation. The Government must receive the acknowledgment by the time and at the place specified for receipt of bids.

(End of provision)

52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)

Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

(End of provision)

52.214-5 SUBMISSION OF BIDS (MAR 1997)

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (1) addressed to the office specified in the solicitation, and (2) showing the time and date specified for receipt, the solicitation number, and the name and address of the bidder.

(b) Bidders using commercial carrier services shall ensure that the bid is addressed and marked on the outermost envelope or wrapper as prescribed in subparagraphs (a)(1) and (2) of this provision when delivered to the office specified in the solicitation.

(c) Telegraphic bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice.

(d) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(e) Bids submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

(End of provision)

52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)

Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS (NOV 1999)

(a) Bidders are responsible for submitting bids, and any modifications or withdrawals, so as to reach the Government office designated in the invitation for bids (IFB) by the time specified in the IFB. If no time is specified in the IFB, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that bids are due.

(b)(1) Any bid, modification, or withdrawal received at the Government office designated in the IFB after the exact time specified for receipt of bids is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late bid would not unduly delay the acquisition; and--

(i) If it was transmitted through an electronic commerce method authorized by the IFB, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of bids; or

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of bids and was under the Government's control prior to the time set for receipt of bids.

(2) However, a late modification of an otherwise successful bid that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(c) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the bid wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(d) If an emergency or unanticipated event interrupts normal Government processes so that bids cannot be received at the Government office designated for receipt of bids by the exact time specified in the IFB and urgent Government requirements preclude amendment of the IFB, 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 Government processes resume.

(e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. If the IFB authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision at 52.214-31, Facsimile 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.

(End of provision)

52.214-18 PREPARATION OF BIDS--CONSTRUCTION (APR 1984)

(a) Bids must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a bid must initial each erasure or change appearing on any bid form.

(b) The bid form may require bidders to submit bid prices for one or more items on various bases, including--

(1) Lump sum bidding;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of subparagraphs (1) through (3) above.

(c) If the solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(d) Alternate bids will not be considered unless this solicitation authorizes their submission.

(End of provision)

52.214-19 CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION (AUG 1996)

(a) The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government, considering only price and the price-related factors specified elsewhere in the solicitation.

(b) The Government may reject any or all bids, and waive informalities or minor irregularities in bids received.

(c) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the bid.

(d) The Government may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Government even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

(End of provision)

52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

(End of clause)

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
N/A	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is St. Croix, U.S. Virgin Islands.

(End of provision)

52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENT-- CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JAN 2004)

(a) Definitions. Construction material, designated country construction material, domestic construction material, foreign construction material, and FTA country construction material, as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act --Construction Materials under Trade Agreements” (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers. (1) When an offer includes foreign construction material, other than designated country or FTA country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic, designated country, or FTA country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR

clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic, designated country, or FTA country construction material, and the offeror shall be required to furnish such domestic, designated country, or FTA country construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

52.233-2 SERVICE OF PROTEST (AUG 1996) (CESAJ ADAPTATION)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from the person identified in item 10 of the Standard Form 33 (if this solicitation is for non-commercial supplies or services), in item 9A of the Standard Form 1442 (if this solicitation is for construction or dredging), in item 7 of the Standard Form 1449 (if this solicitation is for commercial items), or in item 7 of the DA Form 4069-R (if this solicitation is for work funded by a non-appropriated funds instrumentality) at the address shown in item 7 of the SF 33, item 7 of the SF 1442, item 9 of the SF 1449, or item 5 of the DA Form 4069-R.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) (ALTERNATE I) (FEB 1995) (CESAJ ADAPTATION)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) An organized site visit has been scheduled for -- April 28, 2004 at 10:00 a.m.

(c) Participants will meet at -- (Location will be provided by the contract administration office via telephone. See (d) below.)

(d) Participants should call Mr. Jose Rosado at (787) 729-6880 on or before April 27, 2004 to make arrangements.

(e) Core borings are available. (If available, follow the instructions in the Physical Data paragraph in Section 01110 to make arrangements to inspect the borings. Failure to follow the instructions may result in a delay ranging in duration from one hour to 4 days.)

(f) After the site visit, a memorandum summarizing the visit will be posted to the EBS Web page under the solicitation number. This posting will be strictly for informational purposes only. The memorandum will not become a part of the solicitation. If the solicitation needs to be changed as a result of information obtained during the site visit, a written amendment will be made available to all registered vendors. Questions regarding any information given in the memorandum must be directed to the person whose name appears in item 9 of the Standard Form 1442.

(End of provision)

52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of"(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any Defense FAR Supllement (48 CFR Chapter 2) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (APR 2003)

(a) Definitions. As used in this provision--

(1) Foreign person means any person (including any individual, partnership, corporation, or other form of association) other than a United States person.

(2) United States person is defined in 50 U.S.C. App. 2415(2) and means--

(i) Any United States resident or national (other than an individual resident outside the United States who is employed by other than a United States person);

(ii) Any domestic concern (including any permanent domestic establishment of any foreign concern); and

(iii) Any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern that is controlled in fact by such domestic concern.

(b) Certification. If the offeror is a foreign person, the offeror certifies, by submission of an offer, that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. 2407(a) prohibits a United States person from taking.

(End of provision)

EFARS 52.214-5000 ARITHMETIC DISCREPANCIES

(a) For the purpose of initial evaluations of bids, the following will be utilized in the resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:
(1) Obviously misplaced decimal points will be corrected;
(2) Discrepancy between unit price and extended price, the unit price will govern;
(3) Apparent errors in extension of unit prices will be corrected; and
(4) Apparent errors in addition of lump-sum and extended prices will be corrected.
(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends the bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.
(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

(End of statement)

(CESAJ number 998.214-1)

DISTRIBUTING SOLICITATION AMENDMENTS

If this solicitation is posted to the Jacksonville District's Electronic Bid Set (EBS) web site, any amendments issued against the solicitation will be distributed to registered vendors by one of the following methods:
(i) If the solicitation media is CD-Rom and the amendment is substantial enough to require re-issuance of the entire solicitation, a new CD-Rom, with the amendment incorporated, will be sent to all registered vendors.
(ii) If the solicitation media is CD-Rom and the amendment does not require re-issuance of the CD-Rom, the amendment will be posted to the EBS web site in PDF format and registered vendors will be notified via e-mail to download the amendment from the web site. Copies will not be sent by mail, fax, or delivery service.
(iii) If the solicitation media is paper or WWW, the amendment will be posted to the EBS web site in PDF format and registered vendors will be notified via e-mail to download the amendment from the web site. Copies will not be sent by mail, fax, or delivery service.

(End of paragraph 999.204-4001)

OBTAINING INFORMATION REGARDING THIS SOLICITATION

Read this paragraph in conjunction with FAR 52.214-6, Explanation To Prospective Bidders, which is located in this Section 00100. Verbal requests for information must be directed to the person whose name appears in item 9 of the SF 1442. Collect calls cannot be accepted. Written requests for explanations must be sent to the person identified in item 9 of the SF 1442 and may be sent via facsimile to 904-232-2748. Inquiries and requests that are directed to any other person may not be relayed to the proper person and, therefore, may not be answered.
(End of paragraph number 999.214-4000)

BIDDER'S CHECKLIST -- CONSTRUCTION/DREDGING CONTRACTS

The following list should be used by bidders to avoid irregularities that have occurred in past bids.
1. Have amendments to the Invitation been acknowledged on the bid form in the spaces provided? If not, acknowledgment must be made by separate letter or telegram prior to opening of bids.
2. Have prices been inserted for all bid items of the Bidding Schedule?
3. Do prices inserted include subcontractors' and suppliers' quotations, indirect costs, and profit?
4. Does the total bid amount include the costs of obtaining performance and payment bonds?
5. Have all prices and computations been checked?
6. Is the bid submitted on the latest bid schedule?
7. Have changes been made to the Bidding Schedule if required by amendment?

8. Are decimal points in the bid prices in the proper places?
9. Have you checked for transposition of figures in prices inserted on the Bidding Schedule?
10. Is the bid form signed, and if so, is the bid form signed by a person legally authorized to bind the bidder? Is the bidder's address included?
11. If the bid is signed by an agent, is legal evidence of agent's authority to sign included with the bid?
12. If a bid guarantee is required, does your bid guarantee comply with the Bid Guarantee clause of the solicitation? If the bid guarantee is in the form of a bid bond is it on Standard Form 24 (REV. 10-98)? If your bid guarantee does not firmly bind you (and your sureties, if applicable) to the United States of America, YOUR BID WILL BE CONSIDERED NONRESPONSIVE.
13. If the bid guarantee is in the form of a bid bond, is it completely and properly executed, dated not later than the bid opening date, signed by Principal and Surety, corporate certificates executed, and seals affixed, all as contained in "Instructions" on Standard Form 24 (REV. 10-98)? Power of Attorney is also required to accompany the bond. Is the penal sum marked in? If an individual surety (or sureties) is (are) guaranteeing the bid bond, have the requirements of the Pledges Of Assets clause of this solicitation been satisfied and are the supporting documents included with the bond?
14. Have the appropriate boxes been checked in all paragraphs of the Representations And Certifications (Section 00600)?
15. Have all representations and certifications been submitted with the bid?
16. If required by the Invitation, is literature, data, catalogs, etc., specified by the Invitation included with the bid?
17. Have requirements of the Late Submissions, Modifications And Withdrawals Of Bids provision of this solicitation been met?
CAUTION: BIDS THAT ARE QUALIFIED BY THE BIDDER MAY BE CONSIDERED NONRESPONSIVE.
(End of paragraph number 999.214-4018)

SUBCONTRACTING PLAN TARGET GOALS

The offeror's attention is directed to the Small, Small Disadvantaged And Women Owned Small Business Subcontracting Plan clause of this solicitation. The clause and this paragraph do not apply to small business concerns.

(a) Where applicable, the offeror shall submit a subcontracting plan to the Contracting Officer for review and approval prior to contract award. The subcontracting plan may be submitted with the offer or after the date set for receipt of offers. If the plan is not submitted with the offer, the Contracting Officer will request the plan and specify the due date. The plan must contain all required elements set forth in the above referenced contract clause; must address basic contract requirements and options separately; and must demonstrate how the Contractor will accomplish the subcontracting requirements consistent with the obligations described in the clause. The plan will be evaluated in accordance with Army FAR Supplement (AFARS) Appendix DD, Subcontracting Plan Evaluation Guide. (AFARS is available on the worldwide web at http://dasapp.saalt.army.mil/Documents/AFARS%20conformed.doc Appendix DD begins on page 202 of the document.) Acceptability of the plan will be one of the elements considered by the Contracting Officer when determining contractor responsibility prior to award of a contract.

(b) The following subcontracting target goals are provided for informational purposes only. They are not legally binding.

Category	Target Goal
(1) Small Business Concerns	57.2%
(2) SBA Small Disadvantaged Business Concerns	10.0%
(3) Women-Owned Small Business Concerns	10.0%
(4) SBA HUBZone Small Business Concerns	3.0%
(5) Service-Disabled Veteran-Owned Small Business Concerns	3.0%

(6) Veteran-Owned Small Business Concerns	4.0%

(Stated percentages are based on the total amount of planned subcontracting; not the price of the contract. These target goals do not apply to contracts for commercial items. See FAR Part 12. For definitions of small business concern, small disadvantaged business concern, and woman owned small business concern, see the Small Business Program Representations (FAR 52.219-1) provision in this section of this solicitation. For HUBZone small business concern qualifications, see FAR subpart 19.13.)

(c) After award of the contract and prior to commencement of work, the Deputy for Small Business will instruct the Contractor in the preparation and timely submission of required subcontracting reports (SF-294 and SF-295). Where practicable, the above briefing will take place during the pre-work conference.

(d) Additional information concerning subcontracting plan requirements may be obtained from Ms. Claudia Hundley, Deputy for Small Business, Phone: 904-232-1150, or email claudia.h.hundley@usace.army.mil.

(End of paragraph number 999.219-4002)

SOURCES FOR ASSISTANCE IN LOCATING SMALL BUSINESS SUBCONTRACTORS

(a) The Offeror's attention is directed to the Utilization of Small Business Concerns clause of this solicitation. Assistance in identifying small, small disadvantaged and women-owned small business concerns may be obtained as follows:

(1) Internet Web Site Sources for searches throughout the U.S., Puerto Rico and the USVI:

(A) Small Business Administration PRO-Net Database
http://www.sba.gov

(B) Procurement Technical Assistance Center (PTAC)
http://www.dla.mil/ddas

(C) Veterans Business Outreach Center 800-542-7232
www.vboc.org

(2) Sources of information within Florida:

(A) Florida Atlantic University PTAC, Ft. Lauderdale 954-771-6520
(B) University of South Florida PTAC, Tampa 813-974-4371
(C) Chamber of Commerce PTAC, Jacksonville 904-928-1100
(D) University of West Florida PTAC, Pensacola 850-474-2919
(E) Florida A&M University PTAC, Tallahassee 850-599-3407
(F) Latin Builders Association, Miami-Dade Area 954-704-0345
(G) Broward County Minority Bldrs Coalition 305-792-1121

(3) Sources of information within the U.S. Virgin Islands:

Dept of Public Works, DBE Coordinator, St. Thomas 340-773-1290

(4) Sources of information within Puerto Rico:

(A) Puerto Rico General Contractors Association, San Juan 787-781-2200
(B) San Juan PTAC 787-753-6861

(b) Further information may be obtained from the Jacksonville District's Small Business internet site, located under Business Opportunities at http://www.saj.usace.army.mil. The above information is continually updated on the internet site.

(c) Failure to comply with the requirements of the Utilization of Small Business Concerns clause can be grounds for imposition of sanctions.

(End of paragraph number 999.219-4003)

SECTION 00330

CONTROL MONUMENT DESCRIPTIONS

Monument ID: MON BIJOU 4

Locality- Project	: ST CROIX	Monument Type	: DISK
Latitude	: 0 0' 0.000"	Longitude	: 0 0' 0.000"
X(E)	: 1076221.453	Y(N)	: 74807.876
Zone	: VI	Elevation	: 116.661
Horizontal Datum	: NAD 27	Vertical Datum	: NGVD 29
Order	:	Linear Units	: FEET
State	: VI	Date Set	: 2003
Monument Set By	:	County	:
Date Added	:	Date Changed	:

Recovered By :

Company	(1)	(2)
Person	(1)	(2)
Date	(1)	(2)
Condition	(1)	(2)

STATION IS LOCATED ON GLYNN ROAD, MON BIJOU, ST CROIX.

TO REACH FROM HENRY E. ROHLSEN AIRPORT TAKE AIRPORT RD (64) UNTIL YOU REACH CENTERLINE RD(70) HEADING EAST. FROM THERE TAKE NORTHSIDE RD (75) AND CONTINUE FOR 1.5 MILES UNTIL YOU REACH INTERSECTION OF GLYNN RD TOWARD MON BIJOU.

STATION IS LOCATED ON PAVEMENT ALONG THE SOUTH SIDE OF ROAD NEAR END OF PAVEMENT.

MARK IS A BRONZE COE SURVEY DISK GROUTED IN CONCRETE STAMPED MON BIJOU 4.

Monument ID: MON BIJOU 5

Locality- Project	: ST CROIX	Monument Type	: DISK
Latitude	: 0 0' 0.000"	Longitude	: 0 0' 0.000"
X(E)	: 1074927.558	Y(N)	: 74354.942
Zone	: VI	Elevation	: 180.323
Horizontal Datum	: NAD 27	Vertical Datum	: NGVD 29
Order	:	Linear Units	: FEET
State	: VI	Date Set	: 2003
Monument Set By	:	County	:
Date Added	:	Date Changed	:

Recovered By :

Company	(1)	(2)
Person	(1)	(2)
Date	(1)	(2)
Condition	(1)	(2)

STATION IS LOCATED ON GLYNN ROAD, MON BIJOU, ST CROIX.

TO REACH FROM HENRY E. ROHLSEN AIRPORT TAKE AIRPORT RD (64) UNTIL YOU REACH CENTERLINE RD(70) HEADING EAST. FROM THERE TAKE NORTHSIDE RD (75) AND CONTINUE UNTIL YOU REACH STATE RD (72). TAKE 72 UNTIL YOU REACH HIGHWAY (73) GOING NORTH INTERSECTION OF GLYNN RD TOWARD MON BIJOU.

STATION IS LOCATED AT 0.5 MILES FROM INTERSECTION ON PAVEMENT ALONG THE SIDE OF ROAD NEAR END OF PAVEMENT.

MARK IS A BRONZE COE SURVEY DISK STAMPED MON BIJOU 5.

Monument ID: MON BIJOU 6

Locality- Project	: ST CROIX	Monument Type	: DISK
Latitude	: 0 0' 0.000"	Longitude	: 0 0' 0.000"
X(E)	: 1074189.595	Y(N)	: 74140.823
Zone	: VI	Elevation	: 184.115
Horizontal Datum	: NAD 27	Vertical Datum	: NGVD 29
Order	:	Linear Units	: FEET
State	: VI	Date Set	: 2003
Monument Set By	:	County	:
Date Added	:	Date Changed	:

Recovered By :

Company	(1)	(2)
Person	(1)	(2)
Date	(1)	(2)
Condition	(1)	(2)

STATION IS LOCATED ON GLYNN ROAD, MON BIJOU, ST CROIX.

TO REACH FROM HENRY E. ROHLSEN AIRPORT TAKE AIRPORT RD (64) UNTIL YOU REACH CENTERLINE RD(70) HEADING EAST. FROM THERE TAKE NORTHSIDE RD (75) AND CONTINUE UNTIL YOU REACH STATE RD (72). TAKE 72 UNTIL YOU REACH HIGHWAY (73) GOING NORTH INTERSECTION OF GLYNN RD TOWARD MON BIJOU.

STATION IS LOCATED AT 0.36 MILES FROM INTERSECTION ON PAVEMENT ALONG THE SIDE OF ROAD NEAR END OF PAVEMENT.

MARK IS A BRONZE COE SURVEY DISK STAMPED MON BIJOU 6.

Monument ID: MON BIJOU 7

Locality- Project	: ST CROIX	Monument Type	: DISK
Latitude	: 0 0' 0.000"	Longitude	: 0 0' 0.000"
X(E)	: 1073178.447	Y(N)	: 73744.619
Zone	: VI	Elevation	: 157.138
Horizontal Datum	: NAD 27	Vertical Datum	: NGVD 29
Order	:	Linear Units	: FEET
State	: VI	Date Set	: 2003
Monument Set By	:	County	:
Date Added	:	Date Changed	:

Recovered By :

Company	(1)	(2)
Person	(1)	(2)
Date	(1)	(2)
Condition	(1)	(2)

STATION IS LOCATED ON GLYNN ROAD, MON BIJOU, ST CROIX.

TO REACH FROM HENRY E. ROHLSEN AIRPORT TAKE AIRPORT RD (64) UNTIL YOU REACH CENTERLINE RD(70) HEADING EAST. FROM THERE TAKE NORTHSIDE RD (75) AND CONTINUE UNTIL YOU REACH STATE RD (72). TAKE 72 UNTIL YOU REACH HIGHWAY (73) GOING NORTH INTERSECTION OF GLYNN RD TOWARD MON BIJOU.

STATION IS LOCATED AT 0.15 MILES FROM INTERSECTION ON PAVEMENT ALONG THE SIDE OF ROAD NEAR END OF PAVEMENT.

MARK IS A BRONZE COE SURVEY DISK STAMPED MON BIJOU 7.

SECTION 00335

WEATHER AND WATER STAGE DATA

1. The below stated water fluctuations are for information only and are not to be utilized in conjunction with any contract related hydrographic surveying. Reference should be made to the water level datums for surveying purposes as noted on the control drawing(s) of the contract plans.

2. Water levels in the channel are subject to rapid changes due to the steep drainage basins. Stages are normally well down in the streambeds, but can rise rapidly to flood conditions within 1 to 2 hours after the causative rainfall. Stream velocity varies from 5 to 10 feet per second under flood conditions. Average annual rainfall is 45.7 inches and varies widely from year to year. Normally, January, February, and March constitute a dry season and the heaviest rainfall occurs during July, August, and September. As a result of the intermittent occurrence of rainfall, most of the stream channels are normally dry, discharging only during periods of rainfall. It shall be the contractor's responsibility to locate water stage information for the project area.

3. The following data are provided:

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK
DAYS BASED ON 5-DAY WORK WEEK

The average number of days in each calendar month with rain equal to, or greater than, 0.1 inches is provided for the project area in the following table. This information is based on data obtained from rain gage Alex Hamilton FLD FAA, St. Croix, U.S.V.I. located at latitude 17° 42', and longitude 64° 48'. The data were obtained from Climatological Data Puerto Rico and Virgin Island, publications by the National Climatic Center, NOAA, for the period of record from 1957 through 1990.

Average Number of Days Per Month
With Rainfall > 0.1 Inches

Gage Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alex Hamilton FLD FAA, St. Croix	6	5	5	6	7	6	8	9	9	10	9	9

4. The project area is subject to tropical storms and hurricanes from June through November, and to windy and/or rainy weather during any time of the year. It shall be the contractor's responsibility to obtain information concerning rain and wind. Reference is made to the following

publication which contains climatological and meteorological observations and data. The below publication is available for review in the office of the U.S. Army Corps of Engineers, Jacksonville District, 701 San Marco Blvd., Jacksonville, Florida 32207.

a. Local Climatological Data - Monthly Summary published by NOAA, Asheville, North Carolina. Subscription price and ordering information are available from the National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. This publication gives hourly wind speed and direction observations for Alex Hamilton FLD FAA, St. Croix, U.S.V.I. The Annual Summary gives a summary of the observations for the period of record.

Section 00600 - REPRESENTATIONS & CERTIFICATIONS

CLAUSES INCORPORATED BY FULL TEXT

52.203-2	CERTIFICATE OF INDEPENDENT PRICE DETERMINATION
52.203-11	CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-3	TAXPAYER IDENTIFICATION
52.204-5	WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS)
52.209-5	CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS
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52.219-19	SMALL BUSINESS CONCERNS REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM
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252.247-7022	REPRESENTATION OF EXTENT OF TRANSPORTATION OF SUPPLIES BY SEA
999.209-4002	CERTIFICATE OF AUTHORITY TO BIND CORPORATION
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Section 00600 - REPRESENTATIONS & CERTIFICATIONS

CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(i) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

“Common parent,” as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

“Taxpayer Identification Number (TIN),” as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:._____

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other _____

(f) Common parent.

___ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that-

(i) The Offeror and/or any of its Principals-

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002) - ALTERNATE I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 237990.

(2) The small business size standard is $28,500,000.00.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has

occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

____ Black American.

____ Hispanic American.

____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

____ Individual/concern, other than one of the preceding.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; or

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.219-2 EQUAL LOW BIDS. (OCT 1995)

(a) This provision applies to small business concerns only.

(b) The bidder's status as a labor surplus area (LSA) concern may affect entitlement to award in case of tie bids. If the bidder wishes to be considered for this priority, the bidder must identify, in the following space, the LSA in which the costs to be incurred on account of manufacturing or production (by the bidder or the first-tier subcontractors) amount to more than 50 percent of the contract price.

_____

_____

(c) Failure to identify the labor surplus area as specified in paragraph (b) of this provision will preclude the bidder from receiving priority consideration. If the bidder is awarded a contract as a result of receiving priority consideration under this provision and would not have otherwise received award, the bidder shall perform the contract or cause the contract to be performed in accordance with the obligations of an LSA concern.

52.219-19 SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (OCT 2000)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry Classification System (NAICS) code assigned to a contracting opportunity.

(b) [Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.] The Offeror [ ] is, [ ] is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees	Avg. Annual Gross Revenues
____ 50 or fewer	____ $1 million or less
____ 51 - 100	____ $1,000,001 - $2 million
____ 101 - 250	____ $2,000,001 - $3.5 million
____ 251 - 500	____ $3,500,001 - $5 million
____ 501 - 750	____ $5,000,001 - $10 million
____ 751 - 1,000	____ $10,000,001 - $17 million
____ Over 1,000	____ Over $17 million

(End of provision)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) ( ) It has, ( ) has not, filed all required compliance reports; and
(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Executive Order 13148, of April 21, 2000, Greening the Government through Leadership in Environmental Management, requires submission of this certification as a prerequisite for contract award.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

( ) (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

( ) (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

( ) (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

( ) (iv) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(A) Major group code 10 (except 1011, 1081, and 1094.

(B) Major group code 12 (except 1241).

(C) Major group codes 20 through 39.

(D) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(E) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

( ) (v) The facility is not located within the United States or its outlying areas.

(End of clause)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --
(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

CERTIFICATE OF AUTHORITY TO BIND CORPORATION

The Offeror, if a corporation, shall cause the following certificate to be executed under its corporate seal. The same officer shall not sign both the offer and this certificate.

CERTIFICATE

I, _____,
(Name)
_____ of the corporation named as Offeror
(Title)
herein, certify that _____, who
(Name of person who signed offer)
signed this offer on behalf of the corporation (Offeror), was then
_____ of said corporation, and that said offer was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____
(Signature)
(CORPORATE SEAL)

_____
(Typed Name)
(End of paragraph number 999.209-4002)

CERTIFICATE OF AUTHORITY TO BIND PARTNERSHIP

The Offeror, if a partnership, shall cause the following certificate to be executed. Offeror shall provide a listing of all partners and a copy of the documentation from the partnership agreement authorizing the partner who has signed this offer to act on behalf of the partnership.

CERTIFICATE

We, the undersigned, comprising the total membership of _____
_____, as partnership doing business at _____
_____, do hereby certify that _____ is
_____ of said partnership and is empowered to
represent, bind, and execute contracts on behalf of said partnership.
Witness our signatures, this_____ day of _____ 19____.

_____ _____
_____ _____
_____ _____
_____ _____

WITNESSES:

_____
_____
(Address)
_____
_____
(Address)

(End of paragraph number 999.209-4003)

Section 00700 - CONTRACT CLAUSES

CLAUSES INCORPORATED BY FULL TEXT

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52.202-1 DEFINITIONS (MAY 2001) --ALTERNATE I (MAR 2001)

(a) Agency head or head of the agency means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) Commercial component means any component that is a commercial item.

(c) Component means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(d) Contracting Officer means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(e) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(f) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(g) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining

or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In

either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed $100,000.

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27(a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 2003)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3),Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the

submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

State, as used in this clause, means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

“Recovered material,” for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as “recovered fiber” and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Definitions. As used in this clause--

Central Contractor Registration (CCR) database means the primary Government repository for Contractor information required for the conduct of business with the Government.

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to

establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record “Active”.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, “doing business as” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the “Suspension of Payment” paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the “Suspension of payment” paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the $25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed $25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 30 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 420 calendar days after receipt of Notice to Proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of $2,390.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts

and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

52.214-26 AUDIT AND RECORDS--SEALED BIDDING. (OCT 1997)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the modification; or

(4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the data of this contract, is incorporated by reference in its entirety and made a part of this contract.

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold in FAR 15.403-4(a)(1) for submission of cost or pricing data.

(End of clause)

52.214-27 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving aggregate

increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for the submission of cost or pricing data at FAR 15.403-4(a)(1), except that this clause does not apply to a modification if an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(b) If any price, including profit, negotiated in connection with any modification under this clause, was increased by any significant amount because

(1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) any of these parties furnished data of any description that were not accurate, the price shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) above.

(c) Any reduction in the contract price under paragraph (b) above due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which:

(1) the actual subcontract; or

(2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made:

(1) the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted;

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer;

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract; or

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2) Except as prohibited by subdivision (d)(2)(ii) of this clause:

(i) an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if:

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.

(ii) An offset shall not be allowed if:

(A) The understated data was known by the Contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or (B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid:

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data which were incomplete, inaccurate, or noncurrent.

(End of clause)

52.214-28 SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall:

(1) become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at (FAR) 48 CFR 15.403-4(a)(1); and

(2) be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the

data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1).

(End of clause)

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

___ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small

business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JAN 2002)--ALTERNATE I (OCT 2001).

(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The apparent low bidder, upon request by the Contracting Officer, shall submit a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns. If the bidder is submitting an individual contract plan, the plan must separately address subcontracting with small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be submitted within the time specified by the Contracting Officer. Failure to submit the subcontracting plan shall make the bidder ineligible for the award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror in included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled ``Utilization of Small Business Concerns'' in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $500,000 ($1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all ``make-or-buy'' decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--

(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans

are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled “Small Business

Subcontracting Plan," the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final

decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

52.222-3 CONVICT LABOR (JUN 2003)

(a) Except as provided in paragraph (b) of this clause, the Contractor shall not employ in the performance of this contract any person undergoing a sentence of imprisonment imposed by any court of a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands.

(b) The Contractor is not prohibited from employing persons--

(1) On parole or probation to work at paid employment during the term of their sentence;

(2) Who have been pardoned or who have served their terms; or

(3) Confined for violation of the laws of any of the States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(i) The worker is paid or is in an approved work training program on a voluntary basis;

(ii) Representatives of local union central bodies or similar labor union organizations have been consulted;

(iii) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services;

(iv) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(v) The Attorney General of the United States has certified that the work-release laws or **regulations** of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of $10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding $100,000 and require subcontractors to include these provisions in any

lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom.

The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

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

(End of clause)

52.222-26 EQUAL OPPORTUNITY (APR 2002)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of $10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of $10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen,

superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the
Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may

be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).
(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Definitions. As used in this clause--

All employment openings means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

Executive and top management means any employee--

(1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;

(2) Who customarily and regularly directs the work of two or more other employees;

(3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(4) Who customarily and regularly exercises discretionary powers; and

(5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

Other eligible veteran means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

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

Qualified special disabled veteran means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.

Special disabled veteran means--

(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability--

(i) Rated at 30 percent or more; or

(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or

(2) A person who was discharged or released from active duty because of a service-connected disability.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or

(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases.
(b) General. (1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

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

(iii) Rate of pay or any other form of compensation and changes in compensation;

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

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

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

(viii) Activities sponsored by the Contractor including social or recreational programs; and

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

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

(c) Listing openings. (1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the

Contractor other than the one where the contract is being performed, but excluding those of independently

operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these

terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings. (1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall--

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of $25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

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

(iii) Rates of pay or any other form of compensation and changes in compensation;

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

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

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

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--
(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

(a) Definitions. As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the

Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to deter- mine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) though (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor-owned or -operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(i) Major group code 10 (except 1011, 1081, and 1094.

(ii) Major group code 12 (except 1241).

(iii) Major group codes 20 through 39.

(iv) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(v) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.)), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

(5) The facility is not located in the United States or its outlying areas.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed $100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding $100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

52.225-11 BUY AMERICAN ACT--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JUN 2003)

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Designated country means any of the following countries: Aruba, Austria, Bangladesh, Belgium, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Canada, Cape Verde, Central African Republic, Chad, Comoros, Denmark.

Djibouti, Equatorial Guinea, Finland, France, Gambia, Germany, Greece, Guinea, Guinea-Bissau, Haiti, Hong Kong, Ireland, Israel, Italy, Japan.

Kiribati, Korea, Republic of, Lesotho, Liechtenstein, Luxembourg, Malawi, Maldives, Mali, Mozambique, Nepal, Netherlands, Niger, Norway, Portugal, Rwanda.

Sao Tome and Principe, Sierra Leone, Singapore, Somalia, Spain, Sweden, Switzerland, Tanzania U.R., Togo, Tuvalu, Uganda, United Kingdom, Vanuatu, Western Samoa, Yemen.

Designated country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a designated country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a designated country into a new and different construction material distinct from the materials from which it was transformed.

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

North American Free Trade Agreement country means Canada or Mexico.

North American Free Trade Agreement country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a North American Free Trade Agreement (NAFTA) country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a NAFTA country into a new and different construction material distinct from the materials from which it was transformed.

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Construction materials. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) and the Balance of Payments Program by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the Trade Agreements Act and the North American Free Trade Agreement (NAFTA) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country and NAFTA country construction materials.

(2) The Contractor shall use only domestic, designated country, or NAFTA country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: none

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
Item 1:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

\1\ Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.

Include other applicable supporting information.

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JAN 2004)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR chapter V, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, Libya, and Sudan are prohibited, as are most imports from North Korea, into the United States or its outlying areas. Lists of

entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at TerList1.html. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR chapter V and/or on OFAC's Web site at http://www.treas.gov/ofac.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a

part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

(End of clause)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(i) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified

acquisition threshold at (FAR) 2.101.to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(End of clause)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)

52.228-1 BID GUARANTEE (SEP 1996) (CESAJ ADAPTATION)

(a) 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.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. If the bid guarantee is in the form of a bid bond, in accordance with FAR 28.106-1 the bidder shall use Standard Form 24, Bid Bond. Use of any other form may not firmly bind the bidder and sureties to the United States of America and may, therefore, be cause for rejection of the bid. If the bid guarantee is secured by assets owned by individual sureties, the bidder and sureties shall comply with the Pledges Of Assets clause (FAR 52.228-11) of this solicitation. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

(c) The amount of the bid guarantee shall be 20 percent of the bid price or $3,000,000 whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(f) Bid bonds on their face must unequivocally bind the bonding company or the bid will be nonresponsive. The Contracting Officer has authority to decide whether there is adequate evidence of authority to unequivocally bind the bonding company. Evidence of intent to be bound may not be submitted after bid opening. Therefore, in order for a power of attorney accompanying a bid bond to be acceptable, it must be (i) an original (not facsimile) power of attorney, (ii) a copy of a power of attorney (or power of attorney with

facsimile signatures) accompanied by an original (not facsimile) signature by the secretary of the company certifying that the power of attorney remains in full force and effect and has not been revoked, or (iii) a copy of a power of attorney with facsimile signatures which indicates on its face that the surety

intends to be bound by facsimile signatures AND has a RAISED corporate seal.

(g) In its application to negotiated contracts, the terms “bid” and “bidder” shall include “proposal” and “offeror.”

(End of clause)

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

52.228-3 WORKERS' COMPENSATION INSURANCE (DEFENSE BASE ACT) (APR 1984)

The Contractor shall (a) provide, before commencing performance under this contract, such workers' compensation insurance or security as the Defense Base Act (42 U.S.C. 1651, et seq.) requires and (b) continue to maintain it until performance is completed. The Contractor shall insert, in all subcontracts under this contract to which the Defense Base Act applies, a clause similar to this clause (including this sentence) imposing upon those subcontractors this requirement to comply with the Defense Base Act.

(End of clause)

52.228-11 PLEDGES OF ASSETS (FEB 1992)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

(a) “Irrevocable letter of credit” (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a

minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than $25 million in the past year, ILCs over $5 million must be confirmed by another acceptable financial institution that had letter of credit business of less than $25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

_____

[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date _____

IRREVOCABLE LETTER OF CREDIT NO. _____

Account party's name _____

Account party's address _____

For Solicitation No. _____(for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States $_____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution, if any, otherwise state of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

_____

[Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

_____
[Confirming Financial Institution's Letterhead or Name and Address]

(Date) _____

Our Letter of Credit Advice Number _____

Beneficiary: _____ [U.S. Government agency]

Issuing Financial Institution: _____

Issuing Financial Institution's LC No.: _____

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by

_____ [name of issuing financial institution] for drawings of up to United States dollars _____/U.S. $_____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

_____

[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

_____

[City, State]

(Date) _____

[Name and address of financial institution]

Pay to the order of _____ [Beneficiary Agency] _____ the sum of United States $_____. This draft is drawn under Irrevocable Letter of Credit No. _____.

_____

[Beneficiary Agency]

By: _____

(End of clause)

52.228-15 PERFORMANCE AND PAYMENT BONDS--CONSTRUCTION (JUL 2000)-

(a) Definitions. As used in this clause--

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is $100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

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

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)

(a) As used in this clause--

"Contract date" means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties" means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax" means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax" means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains

a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

Local taxes includes taxes imposed by a possession or territory of the United States, Puerto Rico, or the Northern Mariana Islands, if the contract is performed wholly or partly in any of those areas.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP 2002)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

_____

(Name)

_____

(Title)

_____

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) 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

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against
the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

(End of clause)

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986) - ALTERNATE I (APR 1984)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence. Unless otherwise stated in this contract, payments to an assignee of any amounts due or to become due under this contract shall not, to the extent specified in the Act, be subject to reduction or setoff.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2003)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through

(a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor, the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt

payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of $1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to use:

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph

(e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports--(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a “second-tier subcontractor”) a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts DisputesAct of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before

the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.233-1 DISPUTES. (JUL 2002)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) Claim, as used in this clause, 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 this contract. However, a written

demand or written assertion by the Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding $100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) 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 Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative disput resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least 30 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 performing the work, the Contractor requests a

reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of clause)

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

52.236-4 PHYSICAL DATA (APR 1984) (CESAJ ADAPTATION)

Data and information furnished or referred to below are for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by (See Section(s) 00320 and 01110 of this contract).
(b) Weather conditions (See Section 00335 of this contract).
(c) Transportation facilities (See Section 01110 of this contract).

(End of clause)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information

concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for

approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

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

(End of clause)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(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.

(End of clause)

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, 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 Government. 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.

(End of clause)

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government 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 Government 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 Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government 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 Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government 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.

(End of clause)

52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises

any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991)

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

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

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

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.
(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) 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 Government 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 clause.

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

(End of clause)

52.236-16 QUANTITY SURVEYS (APR 1984)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Government shall conduct the original and final surveys and make the computations based on them. The Contractor shall conduct the surveys for any periods for which progress payments are requested and shall make the computations based on these surveys. All surveys conducted by the Contractor shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of clause)

52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site 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 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 its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed

fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It 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. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) 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 its 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 an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before 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 (f) below.

(f) 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, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

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.

(End of clause)

52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not 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 the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

(1) the date, circumstances, and source of the order and

(2) that the Contractor regards the order as a change order.

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

(d) If any change under this clause 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 such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the

Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

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

(End of clause)

52.244-2 SUBCONTRACTS (AUG 1998)

(a) Definitions. As used in this clause--

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) This clause does not apply to subcontracts for special test equipment when the contract contains the clause at FAR 52.245-18, Special Test Equipment.

(c) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (d) or (e) of this clause.

(d) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that--

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds--

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(e) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

None

(f)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (c), (d), or (e) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting--

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(g) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any
subcontract nor approval of the Contractor's purchasing system shall constitute a determination--

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(h) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(i) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(j) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(k) Paragraphs (d) and (f) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

None

(End of clause)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (APR 2003)

(a) Definitions.

"Commercial item", has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) (1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract

requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.
(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use

after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted,

or $100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data,

the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996) - ALTERNATE I (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and Contracting Officer fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under paragraph (f) of this clause:

(1) For contract work performed before the effective date of termination, the total (without duplication of any items) of--

(i) The cost of this work;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(1)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(1)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(2) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

(i) acts of God or of the public enemy,

(ii) acts of the Government in either its sovereign or contractual capacity,

(iii) acts of another Contractor in the performance of a contract with the Government,

(iv) fires,

(v) floods,

(vi) epidemics,

(vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall

ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998) (CESAJ ADAPTATION)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

For FAR: http://www.arnet.gov/far/
For DFARS: http://www.acq.osd.mil/dp/dars/dfars.html
(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any Defense FAR Supplement (48 CFR 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(iii) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) “Conviction of fraud or any other felony” means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) “Date of conviction” means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(iv) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003)

(a) Definitions. As used in this clause--

“Central Contractor Registration (CCR) database” means the primary Government repository for contractor information required for the conduct of business with the Government.

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, “doing business as” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the “Suspension of Payment” paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the “Suspension of payment” paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) Definition.

"Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450 (c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

(End of clause)

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of $25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

(End of clause)

252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR. 1996)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions. Historically black colleges and universities,* as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institutions, as used in this clause, means institutions meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term *small disadvantaged business,* when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded--

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small disadvantaged, or women-owned small businesses for the firms listed in the subcontracting plan. Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

252.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

(1) Federal Insecticide, Fungicide and Rodenticide Act;

(2) Federal Food, Drug and Cosmetics Act;

(3) Consumer Product Safety Act;

(4) Federal Hazardous Substances Act; or

(5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through
(5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert "None.")	ACT
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under

chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2..1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (FEB 2003)

(a) Definitions. As used in this clause--

(1) Component means any item supplied to the Government as part of an end product or of another component.

(2) End product means supplies delivered under a line item of this contract.

(b) The Contractor shall deliver under this contract only such of the following items, either as end products or components, that have been grown, reprocessed, reused, or produced in the United States, its possessions, or Puerto Rico:

(1) Food.

(2) Clothing.

(3) Tents, tarpaulins, or covers.
(4) Cotton and other natural fiber products.

(5) Woven silk or woven silk blends.

(6) Spun silk yarn for cartridge cloth.

(7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.

(8) Canvas products.

(9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).

(10) Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing fibers, yarns, fabrics, or materials listed in this paragraph (b).

(c) This clause does not apply--

(1) To items listed in section 25.104(a) of the Federal Acquisition Regulation (FAR), or other items for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To end products incidentally incorporating cotton, other natural fibers, or wool, for which the estimated value of the cotton, other natural fibers, or wool--

(i) Is not more than 10 percent of the total price of the end product; and (ii) Does not exceed the simplified acquisition threshold in FAR part 2;

(3) To foods that have been manufactured or processed in the United States, its possessions, or Puerto Rico, regardless of where the foods (and any component if applicable) were grown or produced, except that this clause does apply to fish, shellfish, or seafood manufactured or processed in the United States and fish, shellfish, or seafood contained in foods manufactured or processed in the United States;

(4) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(5) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if--

(i) The fabric is to be used as a component of an end product that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(A) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/findings/ tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and yarns manufactured in the Netherlands.

(End of clause)

252.225-7016 RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS (APR 2003)

(a) Definitions. As used in this clause--

(1) Bearing components means the bearing element, retainer, inner race, or outer race.

(2) Miniature and instrument ball bearings means all rolling contact ball bearings with a basic outside diameter (exclusive of flange diameters) of 30 millimeters or less, regardless of material, tolerance, performance, or quality characteristics.

(b) Except as provided in paragraph (c) of this clause, all ball and roller bearings and ball and roller bearing components (including miniature and instrument ball bearings) delivered under this contract, either as end items or components of end items, shall be wholly manufactured in the United States or Canada. Unless otherwise specified, raw materials, such as preformed bar, tube, or rod stock and lubricants, need not be mined or produced in the United States or Canada.

(c)(1) The restriction in paragraph (b) of this clause does not apply to ball or roller bearings that are acquired as components if--

(i) The end items or components containing ball or roller bearings are commercial items; or

(ii) The ball or roller bearings are commercial components manufactured in the United Kingdom.

(2) The commercial item exception in paragraph (c)(1) of this clause does not include items designed or developed under a Government contract if the end item is bearings or bearing components.

(d) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection 225.7019-3 of the Defense Federal Acquisition Regulation Supplement. If the restriction is waived for miniature and instrument ball bearings, the Contractor shall acquire a like quantity and type of domestic manufacture for nongovernmental use.

(e) The Contractor shall retain records showing compliance with the restriction in paragraph (b) of this clause until 3 years after final payment and shall make the records available upon request of the Contracting Officer.

(f) The Contractor shall insert the substance of this clause, including this paragraph (f), in all subcontracts, except those for--

(1) Commercial items other than ball or roller bearings; or

(2) Items that do not contain ball or roller bearings.

(End of clause)

252.226-7001 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES, AND HAWAIIAN SMALL BUSINESS CONCERNS (OCT 2003)

(a) Definitions. As used in this clause--

Indian means any person who is a member of any Indian tribe, band, group, pueblo, or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any ``Native'' as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

Indian organization means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C. chapter 17.

Indian-owned economic enterprise means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutes not less than 51 percent of the enterprise.

Indian tribe means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1452(c).

Interested party means a contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

Native Hawaiian small business concern means an entity that is--

(1) A small business concern as defined in section 3 of the Small Business Act (15 U.S.C. 632) and relevant implementing regulations; and

(2) Owned and controlled by a Native Hawaiian as defined in 25 U.S.C. 4221(9).

(b) The Contractor shall use its best efforts to give Indian organizations, Indian-owned economic enterprises, and Native Hawaiian small business concerns the maximum practicable opportunity to participate in the subcontracts it awards, to the fullest extent consistent with efficient performance of the contract.

(c) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status.

(d) In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to--

(1) For matters relating to Indian organizations or Indian-owned economic enterprises: U.S. Department of the Interior, Bureau of Indian Affairs, Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street NW, MS-2626-MIB, Washington, DC 20240-4000. The BIA will determine the eligibility and will notify the Contracting Officer.

(2) For matters relating to Native Hawaiian small business concerns: Department of Hawaiian Home Lands, PO Box 1879, Honolulu, HI 96805. The Department of Hawaiian Home Lands will determine the eligibility and will notify the Contracting Officer.

(e) No incentive payment will be made--

(1) While a challenge is pending; or

(2) If a subcontractor is determined to be an ineligible participant.

(f)(1) The Contractor, on its own behalf or on behalf of a subcontractor at any tier, may request an incentive payment in accordance with this clause.

(2) The incentive amount that may be requested is 5 percent of the estimated cost, target cost, or fixed price included in the subcontract at the time of award to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(3) In the case of a subcontract for commercial items, the Contractor may receive an incentive payment only if the subcontracted items are produced or manufactured in whole or in part by an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(4) The Contractor has the burden of proving the amount claimed and shall assert its request for an incentive payment prior to completion of contract performance.

(5) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the estimated cost, target cost, or fixed price included in the subcontract awarded to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(6) If the Contractor requests and receives an incentive payment on behalf of a subcontractor, the Contractor is obligated to pay the subcontractor the incentive amount.

(g) The Contractor shall insert the substance of this clause, including this paragraph (g), in all subcontracts exceeding $500,000 for which further subcontracting opportunities may exist.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

(End of clause)

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the

work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title	File	Drawing No.
Estate Mon Bijou St. Croix U. S. Virgin Islands Flood Control Channel	D.O. File No. 109-36,488 Dated August 1993	31 Drawings plus Cover

252.236-7004 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DEC 1991)

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.

(1) Sixety percent of the lump sum price upon completion of the contractor's mobilization at the work site.

(2) The remaining forty percent upon completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a) (1) and (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of --

(i) Actual mobilization costs at completion of mobilization;

(ii) Actual demobilization costs at completion of demobilization; and

(iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b)(1) of this clause is not subject to appeal.

252.236-7008 CONTRACT PRICES - BIDDING SCHEDULES. (DEC 1991)

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for --

(1) Furnishing all plant, labor, equipment, appliances, and materials; and

(2) Performing all operations required to complete the work in conformity with the drawings and specifications.

(b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (MAY 2002)

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY

TOTAL_____

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (MAR 2000)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)

Section 00800 - SPECIAL REQUIREMENTS

CLAUSES INCORPORATED BY FULL TEXT

52.223-3	HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) (CESAJ ADAPTATION)
998.231-1	EFARS 52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)
998.232-3	EFARS 52.232-5002 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995)
998.249-1	EFARS 52.249-5000 BASIS FOR TERMINATION SETTLEMENT PROPOSALS
999.201-4002	UNAUTHORIZED INSTRUCTIONS FROM GOVERNMENT OR OTHER PERSONNEL
999.203-4000	DFARS 203-70 - CONTRACTOR STANDARDS OF CONDUCT
999.219-4001	RETAINAGE FOR FAILURE TO COMPLY WITH SUBCONTRACTING PLAN REPORTING REQUIREMENTS
999.222-4005	LABOR LAWS
999.239-1	AUTOMATED INFORMATION SYSTEM SECURITY
999.242-4001	ENGLISH SPEAKING REPRESENTATIVE
999.242-4005	CONTRACTING OFFICER'S PROJECT BUSINESS ADDRESS

Section 00800 - SPECIAL REQUIREMENTS

CLAUSES INCORPORATED BY FULL TEXT

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) (CESAJ ADAPTATION)

(a) "Hazardous material", as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract (see Note 1 below). The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No. (See Note 2 below)
_____	_____
_____	_____
_____	_____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging,

transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

Notes:

1. The phrase “to be delivered under this contract” shall be interpreted to include hazardous materials to be consumed in the performance of the work even though such materials may not be delivered to the Government as end items.

2. The use (or consumption) of some kind of hazardous material is required for the performance of almost every construction (including dredging) contract and in many service contracts. Therefore, the offeror should not enter “none” without first evaluating the work and making a positive determination that no such materials will be introduced to the job site. If the offeror is not sure of the identity of hazardous materials that may be used during the performance of the work, the offeror should enter “unknown at this time.” Regardless of the offeror’s entry, the successful offeror (the Contractor) will be required to submit material safety data sheets prior to introducing any hazardous materials to the job site.

(End of notes)

EFARS 52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Termination Settlement Proposals, and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region XI. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

(CESAJ paragraph number 998.231-1)

EFARS 52.232-5002 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995)

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of $1,000.00 has been reserved for this contract and is available for payment to the contractor during the current fiscal year. (See note at the end of this clause.) It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payments beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under this contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a Suspension of Work or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of 60 days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under this contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means monies that have been set aside and made available for payments under this contract.

(End of clause)

(CESAJ paragraph number 998.232-3)

EFARS 52.249-5000 BASIS FOR TERMINATION SETTLEMENT PROPOSALS

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a termination settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:
Actual costs for each piece of equipment, or groups of similar serial or series
equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
If equipment costs have been allocated to a contract using predetermined rates , those charges will be adjusted to actual costs.
(3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.
(4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).
(5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.

(End of Clause)
(CESAJ paragraph number 998.249-1)

UNAUTHORIZED INSTRUCTIONS FROM GOVERNMENT OR OTHER PERSONNEL

The Contractor shall not accept any instructions issued by any person, employed by the Government or otherwise, other than the Contracting Officer or the Contracting Officer's Representative (COR) acting within the limits of the COR's authority. See the Contracting Officer's Representative clause of this contract.

(End of paragraph number 999.201-4002)

DFARS 203-70 – CONTRACTOR STANDARDS OF CONDUCT

The following excerpt from DFARS subpart 203.70 is presented as a reminder:
203.7000 Policy. Government contractors must conduct themselves with the highest degree of integrity and honesty. Contractors should have standards of conduct and internal control systems that--
(1) Are suitable to the size of the company and the extent of their involvement in Government contracting;
(2) Promote such standards;
(3) Facilitate timely discovery and disclosure of improper conduct in connection with Government contracts; and
(4) Ensure corrective measures are promptly instituted and carried out.
203.7001 Procedures.
(a) A contractor's system of management controls should provide for--
(1) A written code of business ethics and conduct and an ethics training program for all employees;
(2) Periodic reviews of company business practices, procedures, policies, and internal controls for compliance with standards of conduct and the special requirements of Government contracting;
(3) A mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports;
(4) Internal and/or external audits, as appropriate;
(5) Disciplinary action for improper conduct;

(6) Timely reporting to appropriate Government officials of any suspected or possible violation of law in connection with Government contracts or any other irregularities in connection with such contracts; and

(7) Full cooperation with any Government agencies responsible for either investigation or corrective actions.
(End of paragraph number 999.203-4000)

RETAINAGE FOR FAILURE TO COMPLY WITH SUBCONTRACTING PLAN REPORTING REQUIREMENTS

(a) Read this paragraph in conjunction with Liquidated Damages--Small Business Subcontracting Plan (FAR 52.219-16) clause of this contract.

(b) Should the Contractor fail to submit SF 294 and/or SF 295 reports in a timely manner, the Government will consider this failure as evidence of possible failure to make a good faith effort to achieve goals contained in the Contractor's subcontracting plan. In order to protect the Government's ability to assess liquidated damages in the event the Contractor does fail to meet the goals and such failure results from a lack of good faith effort, the Contracting Officer will retain from progress payments an amount deemed sufficient to satisfy the Contractor's liability. The amount of the retainage will be determined in accordance with the following formula:

Total dollar amount proposed for subcontracting to small business multiplied by the percentage of actual progress on the contract, up to a maximum of 10% of the progress payment, will be withheld from the next progress payment that is due after the Contractor's failure to submit a required report. If one or more reports have been submitted before a failure to submit a required report, this formula will be adjusted by deducting any amounts reported as subcontracted to small business from the total dollar amount proposed to be subcontracted. See examples below.

Example 1 (No previous reports submitted)			
Total proposed subcontracting	$500,000	Current progress payment	$100,000
Percent of work completed	x .10	Maximum retainage percentage	x .10
Retainage	$50,000	Retainage	$10,000
Maximum that can be retained is $10,000			

Example 2 (Previous reports submitted)			
Total proposed subcontracting	$500,000	Current progress payment	$100,000
Subcontracting previously reported($100,000)		Maximum retainage percentage	x .10
Percent of work completed	x .10	Retainage	$10,000
Retainage	$40,000		
Maximum that can be retained is $10,000			

(c) Contracting Officer's Representative (COR). In addition to any other COR appointments that may be made under this contract, Debra K. Overstreet, Deputy for Small Business, is appointed COR for matters relating to enforcement of the Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan clause of this contract. In this regard, she is authorized to conduct reviews of the Contractor's records; correspond with the Contractor (both verbally and in writing); and, in accordance with subparagraph (b) above, authorize retainage for failure to achieve goals.
(End of paragraph number 999.219-4001)

LABOR LAWS

(a) The Davis-Bacon Act is not applicable to contract work performed in the Commonwealth of Puerto Rico or the U.S. Virgin Islands and the Service Contract Act has been held not to apply to construction contracts.

(b) If a DOL wage determination is included in this contract, the Contractor shall pay not less than the wages and fringe benefits specified in the wage determination.

(c) In accordance with the Permits and Responsibilities clause of this contract, the Contractor shall be responsible for complying with any local labor laws, codes, and regulations that apply to the work performed under this contract.

(d) If work under this contract is performed in the Commonwealth of Puerto Rico, the Contractor is advised to consult with the Commonwealth's Department of Labor for the purpose of reviewing applicable local labor laws which may contain specific rules for computing overtime and the amount of overtime pay laborers and mechanics must be paid. Any such applicable local labor law imposing stricter overtime rules than those contained in the Contract Work Hours and Safety Standards Act -- Overtime Compensation clause of this contract (i.e., provides greater benefits to laborers and mechanics) may apply in lieu of the rules contained in that clause.

(e) If this contract is a NAFI contract and includes DA Form 4075-R, the clauses that relate to implementation of the Davis-Bacon Act (e.g., I-22, I-23, I-37, I-38, I-59, I-60, I-63, I-64, I-65, and I-66) are hereby deleted from the form and the contract.

(End of paragraph number 999.222-4005)

AUTOMATED INFORMATION SYSTEM SECURITY

All Contractor employees (U.S. citizens and Non- U.S. citizens) working under this contract *(to include grants, cooperative agreements and task orders)* who require access to Automated Information Systems (AIS), (stand alone computers, network computers/systems, e-mail) shall, at a minimum, be designated into an ADP-III position (non-sensitive) in accordance with DoD 5220-22-R, Industrial Security Regulation. The investigative requirements for an ADP-III position are a favorable National Agency Check (NAC), SF-85P, Public Trust Position. The contractor shall have each applicable employee complete a SF-85P and submit to the U.S. Army Corps of Engineers, Jacksonville District Security Officer within three (3) working days after award of any contract or task order, and shall be submitted prior to the individual being permitted access to an AIS. Contractors that have a commercial or government entity (CAGE) Code and Facility Security Clearance through the Defense Security Service shall process the NACs and forward visit requests/results of NAC to the U.S. Army Corps of Engineers, Jacksonville District Security Officer. For those contractors that do not have a CAGE Code or Facility Security Clearance, the U.S. Army Corps of Engineers, Jacksonville District Security Office will process the investigation in coordination with the Contractor and contract employees.

In accordance with Engineering Regulation, ER 380-1-18, Section 4, foreign nationals who work on Corps of Engineers' contracts or task orders shall be approved by the HQUSACE Foreign Disclosure Officer or higher before beginning work on the contract/task order. This regulation includes subcontractor employees. (NOTE: exceptions to the above requirement include foreign nationals who perform janitorial and/or ground maintenance services.) The contractor shall submit to the U.S. Army Corps of Engineers, Jacksonville District Contract Office, the names of all foreign nationals proposed for performance under this contract/task order, along with documentation to verify that he/she was legally admitted into the United States and has authority to work and/or go to school in the US. Such documentation may include a US passport, Certificate of US citizenship (INS Form N-560 or N-561), Certificate of Naturalization (INS Form N-550 or N-570), foreign passport with I-551 stamp or attached INS Form I-94 indicating employment authorization, Alien Registration Receipt Card with photograph (INS Form I-151 or I-551), Temporary Resident Card (INS Form I-688), Employment Authorization Card (INS Form I-688A), Reentry Permit (INS

Form I-327), Refugee Travel Document (INS Form I-571), Employment Authorization Document issued by the INS which contains a photograph (INS Form I-688B).

Classified contracts require the issuance of a DD Form 254 (Department of Defense Contract Security Classification Specification).

(End of Paragraph 999.239-1)

ENGLISH SPEAKING REPRESENTATIVE

At all times when any performance of the work at any site is being conducted by any employee of the Contractor or his subcontractors, the Contractor shall have a representative present at each site who has the capability of receiving instructions in the English language, fluently speaking the English language and explaining the work operations to persons performing the work in the language that those performing the work are capable of understanding. The Contracting Officer shall have the right to determine whether the proposed representative has sufficient technical and bilingual capabilities, and the Contractor shall immediately replace any individual not acceptable to the Contracting Officer.
(End of paragraph 999.242-4001)

CONTRACTING OFFICER'S PROJECT BUSINESS ADDRESS

Once the contract is awarded, all communication, submittals, and inquiries by the Contractor regarding the project shall be directed and addressed to Antilles Construction Office, U.S. Army Corps of Engineers, 400 Fernandez Juncos Avenue, San Juan, Puerto Rico 00901-3299. All communications to be in the English language.

(End of paragraph number 999.242-4005)

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SECTION 01110

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SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE EM 385-1-1	(2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual
GEOTECHNICAL DATA REPORT	(2004) Geotechnical Data Report for St. Croix, U.S. Virgin Islands, Flood Control Channel and Bridges (Posted as Geodata.pdf)

1.2 WORK COVERED BY CONTRACT DOCUMENTS

1.2.1 Project Description

The work includes construction of a 6,530-foot long bypass channel with a bottom width of 75 feet, 1 (vertical) on 3 (horizontal) side slopes, 38 gabion drop structures, and a diversion levee at the upstream end; two access roads, and waterline relocations; a clay bed in existing 2.5-acre farm pond, cattle crossing, chain link fence, farm fence, Highway 73 bypass road, demolition of homes and other existing structures, and repair of public roads; and incidental related work.

1.2.2 Location

The work shall be located at Estate Mon Bijou, St. Croix, U.S. Virgin Islands, about 5 miles west of Christiansted, at the intersection of Highway 73 and Glynn Road. Also, see Drawing 7/1 of the Contract Drawings indicated in the clause CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS of Section 00700 CONTRACT CLAUSES. Drawing 7/1 shows the route from the project site to the St. Croix Landfill. The landfill is just east of the Henry E. Rohlsen Airport.

1.2.3 Safety Requirements

See Section 01525 GENERAL SAFETY REQUIREMENTS and COE EM 385-1-1.

1.2.4 Work Performed by Others

See paragraph PROJECT COORDINATION of Section 01310 ADMINISTRATIVE PROCEDURES.

1.2.5 Order of Work

The Contractor shall complete placement of the farm pond clay lining prior

to drainage and removal by excavation of the existing pond along the channel alignment.

1.2.6 Public Road Repair

Prior to commencement of work, the Contractor shall perform a pre-work survey of pavement condition on public roads along the haul route with the Contracting Officer's Representative (COR) and a representative from the U.S. Virgin Islands Department of Public Works (DPW). The survey shall consist of a video tape recording of pavement along the route, and supporting written documentation to indicate existing damage. The Contractor shall provide two copies of the video tape and written documentation to the COR (one will be provided to DPW by the COR). The Contractor shall repair damage to public roads caused by work performed under this contract as directed by the COR. Removal of damaged pavement and placement of base course and pavement for patching and repairing shall be performed in accordance with DPW standards and requirements.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Transmit submittal items in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Video Tape and Documentation

Submit two copies of video tape and supporting documentation of the pre-work survey of public roads as indicated in the subparagraph "Public Road Repair" above.

1.4 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK

Read this paragraph in conjunction with the Clause COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10) of Section 00700 CONTRACT CLAUSES.

1.5 LIQUIDATED DAMAGES - CONSTRUCTION

Refer to the Clause LIQUIDATED DAMAGES - CONSTRUCTION (FAR 52.211-12 of Section 00700 CONTRACT CLAUSES.

1.6 PHYSICAL DATA

Read this paragraph in conjunction with the Clause PHYSICAL DATA (FAR 52.236-4) of Section 00700 CONTRACT CLAUSES.

1.6.1 Physical Conditions

The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and/or by core borings. When the indicated physical conditions are the result of site investigations by core borings, the core boring logs and laboratory data are in the GEOTECHNICAL DATA REPORT, and the core boring locations are shown on the drawings. Also, see the GEOTECHNICAL DATA REPORT for instructions concerning availability of core borings for inspection.

1.6.2 Weather, Water Stage and Tide Data

See Section 00335 WEATHER AND WATER STAGE DATA.

1.6.3 Contractor Investigation

In addition to the information given in the contract drawings, the Contractor shall make his own investigation of available roads for transportation, load limits for bridges and roads, and other road conditions affecting the transportation of materials and equipment to the site. The Contractor shall investigate the availability of railroad sidings, and shall make all arrangements for use of any sidings for the delivery of any materials and equipment to be used on the work.

1.7 LAYOUT OF WORK

Read this paragraph in conjunction with the Clause LAYOUT OF WORK (FAR 52.236-17) of Section 00700 CONTRACT CLAUSES.

1.7.1 Established Monuments

The Government has established monuments, control data and elevations for the work site(s) as indicated on the contract drawings. Control monument descriptions are in Section 00330 CONTROL MONUMENT DESCRIPTIONS.

1.7.2 Layout

From the monuments, control data and elevations established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the contract drawings, subject to such modifications as the Contracting Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

1.7.3 Survey

The Contractor shall furnish, at his own expense, such stakes, templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the monuments, control data and elevations established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Contracting Officer until authorized to remove them, and if such marks are destroyed by the Contractor or through his negligence, prior to their authorized removal, they may be replaced by the Contracting Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Contracting Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

1.8 DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES. However, if, in the judgment of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood, earthquake, hurricane, or tornado, which damage is not due to the failure

of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to Clause CHANGES of Section 00700 CONTRACT CLAUSES will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

1.9 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (31 OCT 1989)

This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES. In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

a. The weather experienced at the project site during the contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated for the project location during any given month.

b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

1.9.1 Schedule of Monthly Anticipated Adverse Weather Delays

The schedule of monthly anticipated adverse weather delays is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. See Section 00335 WEATHER AND WATER STAGE DATA to obtain MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON 5-DAY WORK WEEK.

1.9.2 Contractor Responsibility

Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in Section 00335 WEATHER AND WATER STAGE DATA, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Clause DEFAULT (FIXED PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES.

1.10 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

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SECTION 01270

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SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUMMARY

This section describes how Line Items will be measured and paid for progress payments. Work to be measured is described in specification sections listed for each Line Item. Measurement procedures for payment, required quantity survey or procurement documentation and payment restrictions are described in applicable specification sections. Allocate costs for work not specifically mentioned to the Line Item most closely associated with work involved. Unless there is a specific Line Item for administrative costs, such as Quality Control and Safety, allocate such costs proportionally across all Line Items.

1.2 DEFINITIONS

The terms "Contract Line Item Number (CLIN)" and "Line Item" are interchangeable herein (e.g.: CLIN 0001 is Line Item 0001). The term "CLIN" is a contracting term used in the Quality Control System (QCS) payment data base. See Section 01312 QUALITY CONTROL SYSTEM (QCS).

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Transmit submittal items in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Schedule of Values; G|COR

Provide a breakdown of lump sum items into proposed pay activities. Schedule of Values will become basis for CLIN and Pay Activity data in the QCS payment data base.

1.4 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the LINE ITEMS AND PRICING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.4.1 Mobilization and Demobilization (Line Item 0001)

Payment will be made for costs associated with or incidental to mobilization and demobilization and establishment of initial project management and coordination. See Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION of Section 00700 CONTRACT CLAUSES and Section 01310 ADMINISTRATIVE PROCEDURES.

1.4.2 Clearing and Grubbing (Line Item 0002)

Payment will be made for costs associated with or incidental to clearing, grubbing, and proper disposal of vegetation and material. Clearing and grubbing at the farm pond will be paid for under the line item "Farm Pond Clay Lining" below, and will not be paid for under this line item. See Section 02231 CLEARING AND GRUBBING.

1.4.3 Cattle Crossing (Line Item 0007)

Payment will be made for costs associated with or incidental to installation of the cattle crossing (see drawings).

1.4.4 Temporary Highway 73 Bypass (Line Item 0013)

Payment will be made for costs associated with or incidental to placement of subgrade, base course, pavement, signs, barriers and drainage culvert(s) for installation and maintenance of a temporary bypass road for Highway 73.

1.4.5 Demolition of Existing Structures

Payment will be made for costs associated with or incidental to demolition of existing homes and other structures indicated in the drawings, and proper disposal of debris.

1.5 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the LINE ITEMS AND PRICING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.5.1 Channel Excavation (Line Item 0003)

1.5.1.1 Payment

Payment will be made for costs associated with or incidental to excavation, transportation, and disposal of materials; excavation, hauling and stockpiling of topsoil; providing and maintaining access to the work site(s) and disposal area(s); noise control; and, debris removal. See Sections 01525 GENERAL SAFETY REQUIREMENTS and 02331 LEVEE CONSTRUCTION, EXCAVATION, BACKFILL, AND CONTROL OF WATER.

1.5.1.2 Measurement

The total amount of material removed, and to be paid for under this

contract, will be measured by the volume in place prior to excavation with quantities determined by the average end area method. The government will perform initial and final surveys in accordance with the clause QUANTITY SURVEYS of Section 00700 CONTRACT CLAUSES. Cross sections will be taken at an 100-foot interval. The cross sections used for calculation of final quantities will be determined from the original survey performed by the Government after clearing and before excavation, and the finished grades shown on the drawings. The final survey performed by the government will be used to verify that excavation is complete to the required finished grades, and that tolerances have not been exceeded. Excavation below required finished grades will not be included in quantities calculated for final payment. The estimated quantity for this line item does not include tolerances. The contractor is responsible for considering the cost of required tolerances, and including this cost in the unit price for this line item (See Section 00010A LINE ITEMS AND PRICING SCHEDULE). Cross sections used for calculation of quantities for progress payments will be determined from the original survey perfomed by the Government, and elevations above finished grade obtained from progress surveys performed by the Contractor in accordance with the clause QUANTITY SURVEYS of Section 00700 CONTRACT CLAUSES.

1.5.1.3 Unit of Measure

Cubic yard.

1.5.2 Levee Fill (Line Item 0004)

1.5.2.1 Payment

Payment will be made for costs associated with or incidental to borrow, processing (removal of unsuitable fill), transportation, and placement of suitable materials; providing and maintaining access to the work site(s) and borrow area(s); and noise control. See Sections 01525 GENERAL SAFETY REQUIREMENTS and 02331 LEVEE CONSTRUCTION, EXCAVATION, BACKFILL AND CONTROL OF WATER.

1.5.2.2 Measurement

The total amount of material placed, and to be paid for under this contract, will be measured by the volume in place with quantities determined by the average end area method. The government will perform initial and final surveys in accordance with the clause QUANTITY SURVEYS of Section 00700 CONTRACT CLAUSES. Cross sections will be taken at an 100-foot interval. The cross sections used for calculation of final quantities will be determined from the original survey performed by the Government after clearing and before fill placement, and the finished grades shown on the drawings. The final survey performed by the government will be used to verify that fill placement is complete to the required finished grades, and that tolerances have not been exceeded. Fill above required finished grades will not be included in quantities calculated for final payment. The estimated quantity for this line item does not include tolerances. The contractor is responsible for considering the cost of required tolerances, and including this cost in the unit price for this line item (See Section 00010A LINE ITEMS AND PRICING SCHEDULE). Cross sections used for calculation of quantities for progress payments will be determined from the original survey perfomed by the Government, and elevations below finished grade obtained from progress surveys performed by the Contractor in accordance with the clause QUANTITY SURVEYS of Section 00700 CONTRACT CLAUSES.

1.5.2.3 Unit of Measure

Cubic yard.

1.5.3 Geotextile Fabric (Line Item 0005)

1.5.3.1 Payment

Payment will be made for costs associated with or incidental to laying of geotextile fabric. See Section 02378A GEOTEXTILES USED AS FILTERS.

1.5.3.2 Measurement

Geotextile fabric will be measured for payment by the area laid.

1.5.3.3 Unit of Measure

Square foot.

1.5.4 Gabions (Line Item 0006)

1.5.4.1 Payment

Payment will be made for costs associated with or incidental to placement of gabions. See Section 02371A WIRE MESH GABIONS AND MATRESSES.

1.5.4.2 Measurement

Gabions will be measured for payment by the volume placed.

1.5.4.3 Unit of Measure

Cubic yard.

1.5.5 Farm Pond Clay Lining (Line Item 0008)

1.5.5.1 Payment

Payment will be made for costs associated with or incidental to placement of clay lining into an existing farm pond, including clearing, grubbing, proper disposal of vegetation and material, and clay placement. See Sections 02231 CLEARING AND GRUBBING and 02661 POND AND RESERVOIR LINERS.

1.5.5.2 Measurement

Clay lining will be measured for payment by the volume placed.

1.5.5.3 Unit of Measure

Cubic yard.

1.5.6 Access Roads (Line Item 0009)

1.5.6.1 Payment

Payment will be made for costs associated with or incidental to placement of base course for access roads. See Section 02740 PAVEMENT.

1.5.6.2 Measurement

Base course will be measured for payment by the area placed.

1.5.6.3 Unit of Measure

Square yard.

1.5.7 Farm Fence (Line Item 0010)

1.5.7.1 Payment

Payment will be made for costs associated with or incidental to placement of farm fence including gates and other appurtenances, and removal and proper disposal of existing fences and gates to be replaced. See Section 02821A FENCING.

1.5.7.2 Measurement

Farm fence will be measured for payment by the length placed.

1.5.7.3 Unit of Measure

Linear foot.

1.5.8 Chain Link Fence (Line Item 0011)

1.5.8.1 Payment

Payment will be made for costs associated with or incidental to placement of chain link fence including gates and other apputenances, and removal and proper disposal of existing fences and gates to be replaced. See Section 02821A FENCING.

1.5.8.2 Measurement

Chain link fence will be measured for payment by the length placed.

1.5.8.3 Unit of Measure

Linear Foot.

1.5.9 Water Line Relocation (Line Item 0012)

1.5.9.1 Payment

Payment will be made for costs associated with or incidental to relocation, replacement, removal, and proper disposal of water lines included in separate items; "12-Inch Water Main" including removal of old water main; "6-Inch Water Line" along new channel; "Removal of 6-Inch Pipe" along new channel; and "Removal of 4-Inch Pipe" along new channel. See Section 02510A WATER DISTRIBUTION SYSTEM.

1.5.9.2 Measurement

Water lines will be measured for payment by the length of new lines placed.

1.5.9.3 Unit of Measure

Linear Foot.

1.5.10 Public Road Repair (Line Item 0014)

1.5.10.1 Payment

Payment will be made for costs associated with or incidental to repair of public roads including a pre-work survey of pavement condition, removal of pavement damaged by activities performed under this contract, and placement of base course and pavement for patching and repairing.

1.5.10.2 Measurement

Pavement will be measured for payment by the area placed.

1.5.10.3 Unit of Measure

Square yard.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PAYMENT PROCEDURES

See Section 01312 QUALITY CONTROL SYSTEM (QCS) for in-depth payment procedure instructions. Upon receiving initial Resident Management System import file, go to "Pay Activities" and establish a link between bid breakdown schedule of values of "Pay Activities" to contract CLINs using "Schedule Activities" data entry page.

3.1.1 Requesting Progress Payment

For progress payments, ensure "Activity Schedule", "Feature Schedule", submittal register, and punchlists are all up to date. Use "Progress Payments" to "request Activity Earnings" for both "Activity Earnings" data entry page and "Other Earning". Provide hard copies of supporting invoices and quantity measurements to support all requested earnings. Ensure that sum of payment activities do not exceed contract award CLIN funding amounts, or "unbalanced" CLINs error will prevent processing the payment.

3.1.2 Options and Modification CLINS

When additional work is added by modification, existing CLINs funding amounts must be updated, or new CLINs for modification will be created. If contract has option CLINs not yet awarded, option CLINs will appear as zero dollar CLINs until option is awarded by modification. No payment may be requested for Options or Modification CLINs until contract modification has been funded and signed.

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SECTION 01310

ADMINISTRATIVE PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

Manage project and coordinate activities of own employees, subcontractors, suppliers and offsite fabricators. Contractor shall use computers, E-mail, and Internet resources for administrative work. Notify Contracting Officer of important meetings, schedule events and activities. Furnish labor and materials and equipment required to plan and execute project management functions and coordination. Coordinate activities and manage resources to construct project conforming to contract, on time and within budget. Related Sections are 01320 PROJECT SCHEDULE, and 01451 CONTRACTOR QUALITY CONTROL.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Transmit submittal items in accordance with Section 01330 SUBMITTAL PROCEDURES. Bring following administrative submittal items to Preconstruction Conference:

SD-01 Preconstruction Submittals

List of Subcontractors

Documentation of compliance with Clauses SUBCONTRACTS (LABOR STANDARDS) and LIMITATIONS ON SUBCONTRACTING of Section 00700 CONTRACT CLAUSES, and, if included, paragraph LIMITATIONS ON SUBSTITUTIONS FOR CERTAIN POSITIONS AND/OR SUBCONTRACTORS of Section 00800 SPECIAL REQUIREMENTS. Submit a list of proposed subcontractors with company name, person to contact, street address, mail address, phone number, type of specialty and estimated subcontract quote.

Signature Authority

Furnish a power of attorney or a notarized letter of authority from Contractor identifying local representatives authorized to sign contract documents.

Drug-Free Work Place Record

Documentation of compliance with Clause DRUG-FREE WORKPLACE of Section 00700 CONTRACT CLAUSES (see subparagraphs (b)(1) through (b)(7)).

1.3 PROJECT COORDINATION

1.3.1 Resident Management System (RMS)

Contractor shall use Corps of Engineers' Resident Management System, referred to as Quality Control System (QCS), for construction information management. See Section 01312 QUALITY CONTROL SYSTEM (QCS).

1.3.2 Access to Others

Maintain access to power poles and other items owned or operated by utility companies. Coordinate with utility companies as required for line marking, hookups, and relocations as needed to perform work. Incoming electrical utilities become the responsibility of Contractor at transformers. Coordinate emergency incident response with local law enforcement and fire rescue authorities. Notify Contracting Officer in writing of coordination problems encountered effecting work.

1.4 PROJECT MEETINGS

Contracting Officer requires following types of project meetings:

- -- Preconstruction Conference
- -- Partnering Meeting
- -- Partnering Regroup Meetings
- -- Coordination Meeting
- -- Preparatory and Initial Phase meeting for each feature of work
- -- Project Progress Meetings

Project meetings are described in detail in subparts below.

1.5 PRECONSTRUCTION CONFERENCE

Contracting Officer will conduct a Preconstruction Conference for this project in accordance with Clause PRECONSTRUCTION CONFERENCE of Section 00700 CONTRACT CLAUSES. Preconstruction Conference will be after Notice of Award (NOA) but prior to Notice to Proceed (NTP). (Refer to subparagraph "Preconstruction Conference Submittals" below.) Contracting Officer will notify Contractor of time, place, and agenda. Contractor shall notify key subcontractors and suppliers to attend. Contracting Officer will discuss contract "ground rules" and general issues including:

- -- Lines of Contracting Officer authority
- -- Lines of Contractor authority
- -- 00700 Contract Clauses
- -- 00800 Special Contract Requirements
- -- Contract Administration
- -- Progress Payment
- -- Correspondence Procedures
- -- Project Schedule
- -- Submittal Register
- -- Labor requirements
- -- General Site Safety

1.5.1 Preconstruction Conference Minutes

Contracting Officer will take detailed minutes of Preconstruction Conference discussions and may use an audio or video tape. Copies of typed minutes will be provided to the Contractor to review for accuracy, sign and

return. Signed minutes become part of the contract file. Audio or video tapes if used will be made available for Contractor to review or copy at Area Office.

1.5.2 Preconstruction Conference Submittals

The timing of submission of submittals and completion of the Preconstruction Conference is intended to allow the Contractor and the Government adequate time to prepare for commencement of work. However, should the Contractor fail to submit required items within the times stated, the Contracting Officer may issue NTP prior to receipt of submittals and prior to the Preconstruction Conference. If NTP is issued prior to the Contractor's compliance with submittal requirements and prior to the Preconstruction Conference, the Contractor will not be permitted to commence work until these requirements have been satisfied. Any delays attributable to the Contractor's failure to comply with these pre-work requirements shall be at the Contractor's expense and may be cause for remedial action by the Contracting Officer. Submittals required by this Section are described in paragraph SUBMITTALS above.

1.5.2.1 Other Division 01 Submittals

In addition to the above, bring listed Division 01 submittals in draft form to Preconstruction Conference:

-- Network Analysis Schedule - See Section 01320 PROJECT SCHEDULE
-- Submittal Register - See Section 01330 SUBMITTAL PROCEDURES
-- Environmental Protection Plan - See Section 01355 ENVIRONMENTAL PROTECTION
-- Quality Control Plan - See Section 01451 CONTRACTOR QUALITY CONTROL
-- Temporary Facilities Plan - See Section 01500 TEMPORARY CONSTRUCTION FACILITIES

Contracting Officer reviews submitted draft plans to prepare Coordination Meeting agenda and understand Contractor procedures.

1.5.2.2 Divisions 02 through 16 Submittals

In addition to the above, bring submittal items for materials, workmanship, plans or events required early in project schedule which are ready for transmittal to Contracting Officer. Prepare transmittal of submittal items in accordance with Section 01330 SUBMITTAL PROCEDURES.

1.6 PARTNERING

Contracting Officer wants to have a bilateral project partnership with Contractor that draws on strengths of both organizations to identify and achieve common goals. Typical partnering goals include:

-- Effective and efficient contract performance
-- Project completion on time and within budget
-- Construction completed according to plans and specifications
-- Development of cooperative management teams
-- Project success with customer (stakeholders) satisfaction
-- Improved Project communication

1.6.1 Initial Partnering Meeting

Contractor, key subcontractors and suppliers shall attend a one-day project "Partnering Meeting". The Partnering Meeting is a project team building workshop facilitated by trained persons. Contracting Officer attendees and invited persons may include:

Administrative Contracting Officer Representative (Area Engineer)
Construction Quality Assurance Representatives
Jacksonville District - Construction Branch persons
Jacksonville District - Engineering Division Designers
Local Sponsor (Owner) - U.S. Virgin Islands Department of Public Works (DPW)

Goal of initial Partnering Meeting is to build trust, identify common goals, and understand individual project members expectations and organizational values. Usual results include better communication between contract parties, shortened project learning curve and a cohesive two party contract partnership. Participants usually sign a voluntary partnering agreement generally describing mutual obligation to cooperate to achieve project goals and maintain effective communication. Contracting Officer will pay costs for workshop site rental and facilitator fees.

1.6.2 Partnering Regroups

After initial Partnering Meeting participation will be voluntary in accordance with a signed Partnering Agreement. After initial Partnering Workshop, costs will be agreed to by both partners and split shared equally, without changing contract price. Partnering Agreements include provisions for Contracting Officer and Contractor to request "Partnering Regroups" when needed. A "Partnering Regroup" is usually a short (4 hours - 1 day) informal partnering session where senior level Contractor and Contracting Officer project members and other interested parties review project issues of concern. Issues of conflict are reviewed, attempt to affirm common project goals and understand concerns of other partner.

1.7 NOTICE TO PROCEED

Notice to proceed (NTP) will be issued shortly after completion of the preconstruction conference. If the Contractor has failed to submit specified plans, including, but not limited to, Accident Prevention Plan - Section 01525 GENERAL SAFETY REQUIREMENTS, Quality Control Plan - Section 01451 CONTRACTOR QUALITY CONTROL, and Environmental Protection Plan - Section 01355 ENVIRONMENTAL PROTECTION, or has not yet received the Contracting Officer's conditional approval to work under an interim plan, the Contractor shall not proceed with the work and shall consider the work to be suspended in accordance with the Suspension Of Work clause of the contract. While the Contractor is working under a conditionally accepted interim plan, funds may be retained from progress payments in accordance with the Payments Under Fixed-Price Construction Contracts clause of this contract until such time as the Contractor submits an acceptable plan. If the Contractor does not submit an acceptable plan within a reasonable time, as determined by the Contracting Officer, the Contracting Officer may order the Contractor to suspend work. Any suspension order issued for the Contractor's failure to submit an acceptable plan will not constitute unreasonable delay under the Suspension Of Work clause and the Contractor will not be entitled to an equitable adjustment of either performance period or contract price.

1.8 COORDINATION MEETING

Coordination Meeting is scheduled, convened and conducted by Contracting Officer after a Preconstruction Conference and prior to starting physical construction. Draft plans submitted after NOA (i.e., Quality Control Plan, Environmental Protection Plan and Accident Prevention Program) will have been reviewed. Coordination Meeting is primarily for on-site Contractor Quality Control staff, including subcontractor and supplier employees performing quality control, to meet and discuss the project in detail with Contracting Officer's Quality Assurance Representatives. Purposes of Coordination Meeting are:

- -- Achieve mutual understanding with Contractor of required Quality Control
- -- Jointly review submitted draft plans; resolve issues of concern
- -- Discuss project plans and specifications, schedule, documentation
- -- Establish a good working relationship between the Contractors Quality Control Staff and Quality Assurance Representatives

1.9 PROGRESS MEETINGS

Schedule, convene and preside over progress meetings as required. As project activities increase ("ramp up"), a minimum of one progress meeting per week is typical of a project of this scope. Convene additional meetings as required, or when requested by Contracting Officer. Notify persons needed to be present to discuss agenda issues. Contracting Officer may direct attendance by key Contractor suppliers, or fabricators as needed. A sample meeting agenda is provided in paragraph GENERAL MEETING REQUIREMENTS below.

1.9.1 Progress Meeting Participants

Typical participants include:

- -- Contracting Officer or Contracting Officer's Representative
- -- Contractor's Site Superintendent
- -- Contractor's Quality Control Manager
- -- Contractor's Safety Coordinator
- -- Subcontractors, as appropriate to the agenda
- -- Suppliers, as appropriate to the agenda
- -- Others as appropriate to the agenda

1.10 ALTERNATE DISPUTE RESOLUTION (ADR)

Contracting Officer wants disputes resolved in a timely, professional, and non-adversarial manner. ADR is a voluntary, non-binding procedure available for use in this contract. ADR combines business administration methods of issue clarification and problem solving techniques. ADR is used in place of formal dispute resolution procedures to promote and maintain amicable working relationships.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL MEETING REQUIREMENTS

See Section 01451 CONTRACTOR QUALITY CONTROL for Preparatory and Initial Phase meeting checklists. Contractor is responsible for phase and progress

meetings to include:

Meeting notification to participants
Prepare agenda for meetings
Use phase checklists for Preparatory and Initial Phase meetings
Physical arrangements for meetings
Preside at meetings
Record minutes recording proceedings and decisions
Copy and send minutes to:
  Meeting participants
  Project parties affected by decisions
  Contracting Officer (No later than 3 working days)

3.2 PROGRESS MEETING AGENDA

Modify agenda as needed for on-going work.

Review minutes from previous progress meetings
Review work progress since previous meeting
Review current definable features of work:
  -- Identify phases of current features of work
  -- Identify pending phase changes
  -- Identify features for discussion in next scheduled meeting
Discuss problem prevention:
  -- Field observations
  -- Deficiencies and tracking
  -- Procedures working well
  -- Problems, conflicts
  -- Methods to improve
Review construction schedule:
  -- Identify delays
  -- Discuss proposed corrective actions to regain schedule
Submittals and Requests for Information (design interpretation):
  -- Review submittal register
  -- Identify submittals to expedite as required
Review off-site activities:
  -- Fabrications
  -- Material and equipment delivery schedule
Review Testing:
  -- Type, Schedule
  -- Received Results
Review changes to construction schedule:
  -- Planned progress during succeeding work period
  -- Coordination of various schedules
  -- Effect of changes on construction and completion date
Review site safety
Discuss maintaining contract quality for materials and workmanship
Discuss pending modifications, changes and substitutions
Discuss other business, as appropriate

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SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 SUMMARY

Contractor shall use Quality Control System (QCS) for contract administration and quality control. Provide sufficient resources to maintain QCS database, and provide Government regular database updates. QCS is a Windows-based construction information management (CIM) software that can be run on a single stand-alone personal computer, a field office local area network or company-wide Internet network. QCS will not work in two stand-alone machines (i.e.. Home Office and Field Office) since data input from two machines cannot be merged. QCS imports and exports construction information data with Government's network based Resident Management System. QCS data entry is described briefly herein. For in-depth step-by-step instructions, refer to the QCS Users Manual.

1.1.1 Related Sections

Section 01270 MEASUREMENT AND PAYMENT
Section 01320 PROJECT SCHEDULE
Section 01330 SUBMITTAL PROCEDURES
Section 01451 CONTRACTOR QUALITY CONTROL

1.2 SUBMITTALS

Government approval is required for submittals with "G" designation; submittals not having "G" designation are for information only "FIO". When used, a two or three letter designation following "G" designation identifies office reviewing submittal item for Government. Submit following in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

First QCS Export; G|COR

Within 14 calendar days after receiving initial Government RMS import file, enter QCS Administrative and Quality Control data and provide QCS export to Government.

SD-07 Certificates

Monthly QCS export files with copies of signed and certified payment requests.

1.3 QCS/RMS Application

Contractor shall use QCS for contract administration, quality control, import and export. Government uses Resident Management System (RMS)database to monitor and administer contract. After Notice of Award Government will provide Contractor a user name and password to access

http://216.86.193.60/qcs/ to download QCS Software, QCS user manual and Standard Data Exchange Format (SDEF) checker. The SDEF is used to import commercial project management/schedule software files.

QCS has following Administration functions:

Contract Description
Action Items
Prime Contractor Information
Subcontractor Information
Contractor Insurance
Contractor Payrolls
Pay Activities
Progress Payments
List of Specification Sections
Submittal Register
Transmittal Log

QCS has following Quality Control functions:

QC Daily Reports
QC Summary
Features of Work
3-Phase Checks
QC Requirements (CQC Tests, User schools, Property Transfers)
Equipment Checks
Activities Schedule (Payment Activities)
Feature Schedule ("Definable Feature of Work 3-phase schedule)
Safety Manual - not functioning, to access EM 385-1-1 go to
http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm

QCS has following Import/Export Functions

RMS - import and export data to government
Excel Template - import submittal data from excel template. Excel template version is not used in Jacksonville District contracts. The submittal register is generated in RMS.
NAS(SDEF) - import construction schedule activities from private sector software using the Standard Data Exchange Format.

Contractor QCS data exported to Resident Management System immediately updates Government network based Construction information and allows District project team members to track or take required contract actions on Government-wide computer network. QCS data exchanges with following RMS areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Import/Export of Data

1.3.1 QCS Reports

QCS includes a number of reports for Contractor management to use to track contract status. Usefulness of QCS reports depends on quality of data and how current database is maintained. Once QCS data is entered double clicking on "Reports" Icon in upper right will generate a "Reports"

selection page. QCS Reports include:

Administration
- List of Contractors
- Report of Action Items

Finances
- Activity Summary
- Contract Line Items
- Contractor Pay Request Work Sheet
- Progress Payment History
- Activity Total Earnings
- Activity Accruals on Completed Payments
- Requested Accrual on Pending Payment

Quality Control
- QC Daily Report
- 3-Phase Schedule
- 3-Phase Control Checklists
- Punch List Report
- QC Requirement List

Submittals
- Submittal Register (ENG 4288)
- Transmittal Form (ENG 4025)

Schedules
- Current Activity Schedule

1.3.2 Correspondence

Correspondence is logged electronically in RMS. Use following codes for Contractor serial letter correspondence to Government:

Contractor's site office - "S"
Contractor's home office - "H"
Request for Information - "RFI"

Number start at 0001, (e.g., H-0001 or S-0001). Government's letters to Contractor will be prefixed with "C". Both Contractor and Government will use "RFI" as a code to identify and track requests for information (RFI).

1.3.3 Official Records/Electronic Communications

RMS and QCS will generate electronic submittal register, transmittal forms, Quality Control Daily Reports, changes, payment and modification forms. When signed documents are required for official contract files, the system will provide signed and dated paper copies. Signed paper documents shall govern, in event of discrepancy with electronic version. RMS generates identifying numbers to track correspondence, change requests, progress payments. Contractor and Government will use these numbers for serial letter identification. There is currently no two way correspondence, nor request for information (RFI)portion of QCS. Provide letters, RFIs as MS Word or .PDF files via e-mail as attached files or on floppy disk.

1.4 PAYMENT

There is no separate payment for establishing and maintaining QCS database; distribute QCS costs in Contract Line Items Numbers (CLINS) amounts in

Section 00010 LINE ITEMS AND PRICING SCHEDULE.

PART 2 PRODUCTS

2.1 HARDWARE SYSTEM REQUIREMENTS

Provide listed hardware as a minimum system configuration to run QCS:

IBM-compatible PC with 500 MHz Pentium or higher processor

128+ MB RAM for workstation / 256+ MB RAM for server

1 GB hard drive disk space for sole use by the QCS system

3 1/2 inch high-density floppy drive

Compact disk (CD) Reader, 8x speed or higher

SVGA or higher resolution monitor (1024 x 768, 256 colors)

Mouse or other pointing deviCe

Windows compatible printer (Laser printer must have 4+ MB of RAM)

Connection to the Internet, minimum 56,000 BPS

2.2 SOFTWARE REQUIREMENTS

MS Windows 98, ME, NT, or 2000

Word Processing software compatible with MS Word 97 or newer

Latest version of: Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher

Electronic mail (E-mail), MAPI compatible

Virus protection software that is regularly upgraded with all issued manufacturer's updates

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

Establish QCS database at site office or company-wide network including the site office. Maintain QCS data current for duration of contract. Assign a person overall responsible for QCS data base and contract file and who will control "Contractor Library" user access and passwords. When QCS is being run in stand-alone mode, make backup export file CDs every couple of days in case hard drive crashes. Prior to exports to Government quality control, check to ensure "Administration" data is current, and "Quality Control", "Activity Schedule" and "Feature Schedules" are complete and up-to-date.

3.2 PREPARATION

3.2.1 Notice of Award Until Preconstruction Conference

Prior to Pre-Construction Conference, go to http://216.86.193.60/qcs/

download and install latest version of QCS software and Standard Data Exchange Format checker. Go to http://216.86.193.60/qcs/guides.html and download user guide. QCS guide is in color and it is best to plot on a color printer. For download assistance contact persons listed in subpart "QCS Assistance."

3.2.2 QCS Training

QCS is discussed briefly with Contractor's QC System Manager during "Construction Quality Management for Contractors" training class, see Section 01451 CONTRACTOR QUALITY CONTROL. A 6-hour training class for Quality Control System will be provided by Jacksonville District at no cost. QCS training classes are given in Room 536 at Jacksonville District Headquarters, Prudential Building, 701 San Marco Blvd, Jacksonville, FL. Contractors meet in the 2nd floor lobby security desk of the Prudential building at 08:30 am to be signed in through security. For QCS registration and hotel information call instructor 904-232-1699 Mr. Pastorini. A map, information sheet, and class dates are provided at the web site "http://www.saj.usace.army.mil/conops/construction". Class size is limited to 11 students,priority for training slots will go to Contractors having newly awarded contracts with Jacksonville District.

3.2.3 QCS Assistance

The first person that should be called for QCS assistance is the RMS Office Administrator at contract Area Office. Based on where your contract is, call the following:

North Florida Area Office, Jacksonville, FL - Mike Lyons 904-232-3818
South Florida Area Office, West Palm Beach, FL - Al Tibbs 561-472-3510
Gulf Coast Area Office, Tampa, FL - Phyllis Lindsay 813-840-0824
Antilles Construction Office, San Juan, PR - Janice Rivera 787-729-6880

If the Office RMS Administrator is not available call:

District RMS POC Bruce Pastorini 904-232-1699
District RMS Help Desk Luis Mendoza 904-232-3455

If District POCs can't help call RMS Support Line: (760) 247-0217.

3.3 IMPORTING RMS DATA

At pre-construction conference, Government will provide Contractor two RMS export files with an ".rxf" extension. These files may be provided by CD, 3.5 floppy disk or as attached files to e-mail. Initial RMS import file will establish drop down data "Government Libraries" as follows:

Work Categories
Specifications Sections
Submittal Types
CSI (Construction Specifications Institute) Index Numbers
Feature Types (under construction)
Contractor Trades
Labor Classifications

The initial .RXF file will also establish a QCS contract file and populate Contract Line Item Numbers (CLINS), and "Administration" data fields in:

Contract Description

Action Items
Prime Contractor Information
Pay Activities
List of Specification Sections
Submittal Register

Once contract is established Contractor shall compare database data to written contract (EBS), and perform quality checks:

Edit, revise and add Prime Contractor Information,
Review/revise specification section list,
Add submittal items not shown in submittal register.
Create a proposed "schedule of values" of pay activities attached to CLINs.

3.3.1 QCS Export/RMS Imports

Once initial QCS file is reviewed and edited, submit the Contractor data input export file to Government within 14 calendar days in accordance with subpart Submittals (above). Contractor and Government will discuss QCS/RMS data and imports and exports at Coordination Meeting (AKA-Mutual Understanding Meeting). Government will provide data export updates to Contractor as needed. Since database grows very quickly, data exchange updates with .rxf files attached to E-mail soon exceed government e-mail size limitation. After a short period, updates from Government will generally be done with CD or with e-mail attached, and consist of submittal reviews, correspondence status, QA comments, and other administrative and Quality Assurance data.

3.3.2 Software/QCS User Guide Updates

During contract period Contractor will be notified to download QCS program updates from the web site as they become available.

3.4 ADMINISTRATION

Maintain current data on following Administration items:

3.4.1 Contract Description

Contract Description and General Information are populated by Government RMS import.

3.4.2 Action Items

This is an interactive set of tasks generated by each RMS import that performs QCS data quality control checks and generates Action Items that must be corrected for the next QCS export. Correct action items promptly.

3.4.3 Prime Contractor

Provide and update Contractor Information, Management/Workdays and tracking Bonds in QCS, addresses, telephone numbers, management staff, and Bond Co/SBA items.

3.4.4 Subcontractors

Enter subcontractor name, trade, phone number. Assign a unique Responsibility Code to each subcontractor/trade.

3.4.5 Contractor Insurance

Enter expiration dates for General Insurance, Auto Insurance, Workman's Comp for both Prime and Subcontractors. Enter date Subcontractor signed SF 1413 "Statement and Acknowledgement" of listed Contract Clauses between Government and Contractor are included in subcontract.

3.4.6 Contractor Payrolls

Track submission of certified payrolls to government for both Contractor and Subcontractors. Update payrolls weekly.

3.4.7 Pay Activities

Develop a list of pay activities (schedule of values) in conjunction with Quality Control -> "Activity Schedule" and construction schedule. Sum of all pay activities shall equal total contract amount. Group pay activities by Contract Line Item Number (CLIN) so total sum of pay activities equals CLIN amount. Total of all CLINs must equal Contract Amount. As modifications change contract price, ensure pay activities modified by contract reflect changes and all pay activities total new contract price.

3.4.8 Progress Payments

Prepare progress payment requests using QCS. Discuss proposed progress payment with Government QA Representative and try to agree to dollar amounts prior to submission. This will save time and prevent errors. From Administration -> Progress Payments -> "Requested Activity Earnings", enter invoiced amounts and dates into data entry pages "Activity Earnings" and "Additional Earnings". Once that is complete, go to "Reports" -> Finances -> Contractor's Pay Request Worksheet". Preview pay request and check for correctness and completed action items. If worksheet is correct go to "Export" icon and save file as .pdf or MSword file. Attach .pdf or MSword file to e-mail and send electronic copy to Government Quality Assurance Representative for review. Print hard copy of "Pay Request Worksheet", certify for accuracy and sign it. Attach it to payment documentation being provided to Government. Once pay request and hardcopy documentation is ready, send an .RXF export to Government. Government may change requested payment amounts in accordance with Contract Clauses. Once Government imports QCS file, reviews pay request and approves dollar amounts, RMS will generate an ENG Form 93 for payment. A copy of this ENG Form 93 file will be e-mailed or provided in hard copy to Contractor for signature. Once ENG Form 93 is signed, dated and returned by Contractor, Payment will be processed. Signed ENG Form 93 faxed or scanned file attached to e-mail will be sufficient to process payment. Contractor shall provide original signed copy for contract files.

3.4.9 Specification Sections

A project manual "Table of Contents" is populated by the RMS Import. This list of Specification Section Numbers and titles is used as a drop down in Transmittal Log, and control submittal item data. If a specification Section is added or deleted by modifications table shall be updated.

3.4.10 Submittal Register

Initial RMS import will populate QCS submittal register columns "Section", "Item No.", "Description", "SD" number, similar to SUBMITTAL REGISTER in Section 01330. Review contract project manual and contract drawings for

additional submittals and compare them to submittal register. Correct errors and add submittals and enter data to make the submittal register complete. To add a submittal, click the "Add" icon and fill-in data. To edit a submittal, click on existing submittal item, and then "edit" icon or double click to bring up existing submittal item data entry page. QCS "Contractor Primary Reviewer" is added from "drop down" list from "Contractor Library" -> "Contractor Staff". Maintain a complete up-to-date submittal register. Complete data columns as a submittal item is reviewed by QC staff member assigned to a transmittal, reviewed by Government and if required, re-submitted. Dates submittals are received and returned by Government are in RMS export file to Contractor. To view or print a copy of current QCS submittal register click "Reports" -> "Submittals", -> "Submittal Register (ENG Form 4288)-> select appropriate "Status/Range/Sort." Submittal management in QCS is made much easier as Status/Range/Sort provides Contractor flexibility to tailor his reports.

ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals. Reviewer comments will be entered in RMS and data will update next RMS import.

3.4.11 Transmittal Log

See the user manual for in-depth instructions. Transmittal Log has four data entry/tracking pages:

Prepare Transmittals
Sent To Government
Returned Form Government
Completed Transmittals

To create a new Transmittal:

Click "add" icon
Select "Section" from drop-down, click "Next"
Select "Add" Submittal Item -> fill out pop-up data page -> "Close"
Fill-in "Transmittal Control" number in "New Transmittal" pop-up data page.

Only submittal items from one section can be transmitted under one transmittal number. QCS transmittal control numbers are similar to (01310-XXXX). When using a computer software scheduler, use procurement work activity to assign as part of transmittal control number. This links transmittal action and schedule. Once a transmittal data of one or more submittal items is entered, to create a QCS generated copy of ENG Form 4025-R Transmittal of Shop Drawings click on "Reports" -> "Submittals" -> "Transmittal Sheet (ENG Form 4025-R). A transmittal can only be exported after "Completed - Ready to Send to Government" has been checked. Attach hard copy to each set of submittal items being transmitted. Reviewer codes and comments will be entered into RMS and update data next RMS import.

3.5 QUALITY CONTROL

Use QCS to implement 3-phase QC control system. QCS will assist Contractor to create records for:

QC Daily Reports (Data entry for):
- Weather

- QC Narratives
- Punch List Items
- QC Requirements (QC Tests, User Schools, Property Records)
- Preparatory and Initial Inspections
- Activities Started/Finished
- Contractors On-site
- Labor/Equipment Hours
- Accident Reporting

QC Summary (Summary data reports for:
- Weather
- QC Narratives
- Punch List Items
- QC Requirements (QC Tests, User Schools, Property Records)
- Preparatory and Initial Inspections
- Activities Started/Finished
- Contractors On-site
- Labor/Equipment Hours
- Accident Reporting

3-Phase Checks

QC Requirements
- QC Tests
- User schools
- Property Installed
- Property Transferred

Equipment Checks
Activity Schedule
Feature Schedule

Maintain Quality Control current and update daily. Data entered in QCS automatically generates construction management reports. Provide Contractor Quality Control (CQC) Plan in accordance with Section 01451, CONTRACTOR QUALITY CONTROL. Upon Government acceptance, submit a QCS data export file reflecting information contained in accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list..

3.5.1 QC Daily Reports

Contractor may use other formats (company production forms)to record basic QC data however, QC Daily report generated by QCS is contract official report. Summarize and consolidate data from supplemental reports or forms into QCS-generated QC Daily report. QCS generates a report numbers for each calendar day after Notice to Proceed was acknowledged. If no QC report was written for non-work days, report numbers will have a gap. Provide QC Reports to Government using E-mail or diskette within 24 hours. Provide a follow-on signed, printed copy of each QC Daily report. Enter data into QC Daily Reports for "SUMMARY" items:

- Weather
- QC Narratives
- Punch List Items
- QC Requirements (QC Tests, User Schools, Property Records)
- Preparatory and Initial Inspections
- Activities Started/Finished
- Contractors On-site

- Labor/Equipment Hours
- Accident Reporting

3.5.2 QC Summary

QC Summary extracts data from QC Daily Reports and links to generate overall contact summary access to view data for:

- Weather
- QC Narratives
- Punch List Items
- QC Requirements (QC Tests, User Schools, Property Records)
- Preparatory and Initial Inspections
- Activities Started/Finished
- Contractors On-site
- Labor/Equipment Hours
- Accident Reporting

3.5.2.1 Weather

Weather is entered by a table and can be copied from previous day.

3.5.2.2 QC Narratives

QC Narratives are QC Daily Report form headings generated from RMS drop-downs.

3.5.2.3 Punch List Items

QCS generates an on-going punch list to track construction deficiencies (Punch List Items). Punch list items identified by Contractor will be numerically tracked using a code "QC" (i.e.QC-001). Punch list item generated by Government will be "QA".

3.5.2.4 QC Requirements (QC-Report)

Enter current data for QC tests, User Schools, Installed Property, Transferred property.

3.5.2.5 Prep/Initial Inspections

Use this data page to enter/track "Feature of Work", and dates for Preparatory meetings and Initial Phase meetings and inspections.

3.5.2.6 Activities Started/Finished

Enter Activity ID, Description, actual Start and Actual Finish for pay activities.

3.5.2.7 Contractors On-site

Enter Contractor, Trade and first and last dates on-site.

3.5.2.8 Labor/Equipment Hours

Enter data on two data entry pages:

Labor Hours
- Date

- Contractor
- Labor Classification
- Number of Employees
- Hours Worked

Equipment Hours
- Date
- Serial Number
- Description
- Stand-By Hours
- Operating Hours

3.5.2.9 Accident Reporting

When an accident occurs, complete accident reports, ENG Form 3394 or OSHA Form 300 and complete QCS "Accident Reporting" . QCS entry does not substitute for submitting accident report forms. QCS is used to track accidents and safety deficiencies in contract data-base. Enter QCS, go to QC Report and add following data:

Accident Date
QC Description of Accident
Accident (Identification Title)

If accident results in lost time for person or equipment, "check" - "Reportable Accident" and fill out "pop-ups:"

Lost Days
Date Reported to Government

In addition to accident reporting, Government will make QA safety comments, or add safety related punch list items when safety deficiencies are observed. These safety comments are included in RMS export file to the Contractor. Update and correct status of safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite.

3.5.3 Features of Work

RMS export file from Government, creates a drop down list of "Definable Features of Work" to develop a consensus QC/QA work breakdown structure to implement Preparatory, Initial and Follow-up 3-phase quality control system. Enter "Feature of Work" ->"Add/Edit" -> Data entry pages for "Feature of Work" (drop-down) and "Number of days after Preparatory, Initial should be schedule" will pop-up. Entering this data will help QC Staff plan and track Preparatory and Initial Phase meetings. For planning, a "Feature of Work" may be associated with multiple pay activities, however, each pay activity shall only be linked to a single "Feature of Work" (see subparagraph "Pay Activity Data" of paragraph "Finances"). "Features of Work" also is source data for QCS Reports -> Quality Control -> "Feature Schedule" and "3-Phase Control Checklist."

3.5.4 3-Phase Checks

RMS has a set of QC checks linked to each "Feature of Work". QCS also allows Contractor to create his own QC Checks for contract work. Entering data for QC checks for "Features of Work" and linked to the RMS data base checks from past jobs helps QC Staff control preparatory and initial phases by going to "Reports".

3.5.5 QC Requirements

QC Requirements is source data for QC Reports and Summary of same title. It links specified QC Tests, User Schools, Property Installation and Property Transfer to pop-up data sheets, pay activities, and contractor schedule. "QC Requirements" data populates "Quality Control" report "QC Requirements List" to help track QC testing, user schools and property.
Enter source data in "pop-up" data entry pages as follow:

QC Tests
- Section (5-digit section number)
- QC Test number ("CT" number, QCS generated)
- Location
- Description

User Schools
- Section (5-digit section number)
- User School ("US" number, QCS generated)
- Location
- Description

Installed Property
- Section
- Installed Property number ("IP" Number, QCS generated)
- Location
- Description
- Unit Price

Transferred Property
- Section
- Install Property ("TP" Number, QCS generated)
- Location
- Description
- Total Units
- Units Transferred
- Remaining Units
- Unit Price

3.5.6 Equipment Checks

Create a list of equipment to be brought on site and maintain it current. From "Quality Control" -> "Equipment Checks" -> Add/Edit; enter most recent data for: Equipment ID, Make/Model, Serial No., Description, Safety Status and Inspection dates.

3.5.7 Activity Schedule

Contractor develop a construction schedule consisting of work activities, in accordance with Contract Clause "Schedules for Construction Contracts." All work activities that link to a pay activity must be scheduled in QCS "Activity Schedule." Each pay activity must link to a Contract Line Item Number as shown in "Administration" -> "Pay Activities." Contractor may enter data manually into QCS when a Network Analysis (CPM) is not specified. When NAS is specified, use a commercial scheduling software and Standard Data Exchange Format to import complete construction schedule. Activity schedule shall be input and maintained in QCS database either manually or by using Standard Data Exchange Format (SDEF). Activity Schedule data entry page consists of:

- Activity Number
- Activity Description
- Early Start
- Early Finish
- Late Start
- Late Finish
- Total Float

QCS will generate an "Activity Schedule" report. From "Reports" -> "Schedule" -> "Current Activity Schedule" for a complete list of planned and actual activities.

3.5.8 Feature Schedule

Feature Schedule tracks dates when Preparatory and Initial phase meetings are scheduled and actually held. Data is entered by "edit" and drop down data entry page.

3.6 IMPORT/EXPORT

3.6.1 Imports

There are three QCS file import functions:

RMS
Excel Template
NAS (SDEF)

each one has a specific function. RMS is to import a Government RMS file or to export a QCS file to Government. "Excel Template" allows QCS to import a submittal register from a standard excel template. "Excel Template" function is not used in Jacksonville District as submittal register is loaded into RMS file and exported to QCS. NAS (SDEF)is for Contractor to import a commercial scheduling software file. Currently only Primavara P3 will export a schedule file that can be directly imported to QCS. Other software like Surtrack, MS Project, Open plan and others require an ASCII text file to be modified using the Standard Data Exchange Format checker down loaded from RMS Internet home-page.

3.6.2 Export

Only "RMS" has an export function. When "Export to Government" is clicked a pop-up selection will indicate download or e-mail choices, password protection. Preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachments. To do this, save ".rxf" to a hard drive or network folder, get out of QCS and attach the file to e-mail. When e-mail is not feasible, Contracting Officer may permit use of 3.5" diskettes or Compact Disk for data transfer. Exporting QCS to a floppy disk or a CD requires a clean disk with no bytes used nor hidden files.

3.6.3 File Names

QCS and RMS generate file names, use those names.

3.6.4 Disk or CD-ROM Labels

Put an exterior label on each diskette and mark with indelible marker in

each CD submitted. Put QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for preparing export.

3.7 QCS UPDATES

Update QCS database each workday, export QC reports as agreed to by Contracting Office. When QCS is being rerun as "stand alone", create an export file as a QCS data base back-up every two work days. On monthly basis, with progress payment request, update feature and activity schedules and QC check submittal register for completeness. Meet with Government representative to review planned progress payment data submission for errors and omissions. Make required corrections prior to acceptance of export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. Government will not process progress payments until an acceptable QCS export file is received.

-- End of Section --

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SECTION 01320

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SECTION 01320

PROJECT SCHEDULE

PART 1 GENERAL

1.1 REFERENCES

The publication listed below forms a part of this specification to the extent referenced. The publication is referenced in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE ER 1-1-11	(1995) Progress, Schedules, and Network Analysis Systems

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preliminary Project Schedule (PPS); G|COR

The PPS, as defined below, shall be submitted within 20 calendar days after date of Notice of Award (NOA).

Initial PPS; G|COR

The Initial PPS, as defined below, shall be submitted within 30 calendar days after date of receipt of Notice to Proceed (NTP).

SD-07 Certificates

Periodic Schedule Updates; G|COR

The PPS shall be updated as specified below and shall be submitted as part of the Contractor's period request for payment.

1.3 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required Project Schedule reports.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Clause SCHEDULE FOR CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES, a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The Project Schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate Contractor's progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, the Contracting Office may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

3.3 PROJECT SCHEDULE

The computer software system utilized by the Contractor to produce the Project Schedule shall be capable of providing all requirements of this specification. Failure of the Contractor to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the Contracting Officer.

3.3.1 Use of the Critical Path Method

The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The Contractor shall provide the Project Schedule in the Precedence Diagram Method (PDM).

3.3.2 Level of Detail Required

The Project Schedule shall include an appropriate level of detail. Failure to develop or update the Project Schedule or provide data to the Contracting Officer at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the Project Schedule:

3.3.2.1 Activity Durations

Contractor submissions shall follow the direction of the Contracting

Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods (usually less than 2 percent of all non-procurement activities' Original Durations are greater than 20 days).

3.3.2.2 Design and Permit Activities

Design and permitting activities, including necessary conferences and follow-up actions and design package submission dates, shall be integrated into the schedule.

3.3.2.3 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the Project Schedule. Long lead materials and equipment are those materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to, submittals; approvals; procurement; fabrication; and, delivery.

3.3.2.4 Critical Activities

The following activities shall be listed as separate line activities on the Contractor's Project Schedule:

a. Submission and approval of mechanical/electrical layout drawings.

b. Submission and approval of O & M manuals.

c. Submission and approval of as-built drawings.

d. Submission and approval of 1354 data and installed equipment lists.

e. Submission and approval of testing and air balance (TAB).

f. Submission of TAB specialist design review report.

g. Submission and approval of fire protection specialist.

h. Submission and approval of testing and balancing of HVAC plus commissioning plans and data.

i. Air and water balance dates.

j. HVAC commissioning dates.

k. Controls testing plan.

l. Controls testing.

m. Performance Verification testing.

n. Other systems testing, if required.

o. Prefinal inspection.

p. Correction of punch list from prefinal inspection.

q. Final inspection.

3.3.2.5 Government Activities

Government and other agency activities that could impact progress shall be shown. These activities include, but are not limited to: approvals; inspections; utility tie-in; Government-Furnished Equipment (GFE); and, NTP for phasing requirements.

3.3.2.6 Responsibility

All activities shall be identified in the Project Schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the subcontracting firm; Contractor work force; or, Government agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.7 Work Areas

All activities shall be identified in the Project Schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3.3.2.8 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. The modification or claim number of each activity shall be identified by the Modification or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.3.2.9 Bid Item

All activities shall be identified in the Project Schedule by the Bid Item to which the activity belongs. An activity shall not contain work in more than one bid item. The bid item for each appropriate activity shall be identified by the Bid Item Number.

3.3.2.10 Phase of Work

All activities shall be identified in the Project Schedule by the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be the unique Phase of Work Code. Refer to Section 01451 CONTRACTOR QUALITY CONTROL.

3.3.2.11 Category of Work

All activities shall be identified in the Project Schedule according to the category of work which best describes the activity. Category of work refers, but is not limited to, the procurement chain of activities including such items as submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing. The category of work for each activity shall be identified by the Category of Work Code.

3.3.2.12 Feature of Work

All activities shall be identified in the Project Schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to, a work breakdown structure for the project. The feature of work for each activity shall be identified by the Feature of Work Code.

3.3.3 Scheduled Project Completion

The schedule interval shall extend from NTP to the contract completion date.

3.3.3.1 Project Start Date

The schedule shall start no earlier than the date of receipt of the NTP. The Contractor shall include as the first activity in the Project Schedule an activity called "Start Project". The "Start Project" activity shall have an "ES" constraint date equal to the date of receipt of the NTP, and a zero day duration.

3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. The Contractor shall include as the last activity in the Project Schedule an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.3.3 Early Project Completion

In the event the Project Schedule shows completion of the project prior to the contract completion date, the Contractor shall identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Contractor shall specifically address each of the activities noted in the narrative report at every Project Schedule update period to assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase fails after the interim completion date.

3.3.4.1 Start Phase

The Contractor shall include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date of receipt of the NTP, and a zero day duration.

3.3.4.2 End Phase

The Contractor shall include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the

completion date for the project, and a zero day duration.

3.3.4.3 Phase X

The Contractor shall include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

3.3.5 Default Progress Data Disallowed

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure of the Contractor to document the Actual Start and Finish dates on the Daily Quality Control Report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Quality Control Reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Program features which calculate one of these parameters from the other shall be disabled.

3.3.6 Out-of-Sequence Progress

Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case approval of the Contracting Officer. The Contractor shall propose logic corrections to eliminate all out-of-sequence progress or justify not changing the sequencing for approval prior to submitting an updated Project Schedule.

3.3.7 Negative Lags

Lag durations contained in the Project Schedule shall not have a negative value.

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below. The data disk, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

3.4.1 PPS Submission

The PPS, defining the Contractor's planned operations for the first 60 calendar days shall be submitted for approval within 20 calendar days after NOA. The approved PPS shall be used for payment purposes not to exceed 60 calendar days after date of receipt of NOA.

3.4.2 Initial Project Schedule Submission

The Initial Project Schedule shall be submitted for approval within 30 calendar days after date of receipt of NTP. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail.

3.4.3 Periodic Schedule Updates

Based on the result of progress meetings, specified in paragraph PERIODIC PROGRESS MEETINGS below, the Contractor shall submit periodic schedule updates. These submissions shall enable the Contracting Officer to assess Contractor's progress. If the Contractor fails or refuses to furnish the information and Project Schedule data, which in the judgment of the Contracting Officer or authorized representative is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided an estimate upon which progress payment may be made.

3.4.4 Standard Activity Coding Dictionary

The Contractor shall use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in COE ER 1-1-11, Appendix A. This exact structure is mandatory, even if some fields are not used.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted by the Contractor for the preliminary submission, initial submission, and every periodic Project Schedule update throughout the life of the project:

3.5.1 Data Disks

Two data disks containing the Project Schedule shall be provided. Data on the disks shall adhere to the SDEF format specified in COE ER 1-1-11, Appendix A.

3.5.1.1 File Medium

Required data shall be submitted on 3.5 disks, formatted to hold 1.44 MB of data, under the MS-DOS Version 5. or 6.x, unless otherwise approved by the Contracting Officer.

3.5.1.2 Disk Label

A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Preliminary, Initial, Update, or Change), full contract number, project name, project location, data date, name and telephone number of person responsible for the schedule, and the MS-DOS version used to format the disk.

3.5.1.3 File Name

Each file submitted shall have a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of the files submitted are unique. The Contractor shall submit the file naming convention to the Contracting Officer for approval.

3.5.2 Narrative Report

A Narrative Report shall be provided with the preliminary, initial, and each update of the Project Schedule. This report shall be provided as the basis of the Contractor's progress payment request. The Narrative Report shall include: a description of activities along the 2 most critical paths; a description of current and anticipated problem areas or delaying factors and their impact; and, an explanation of corrective actions taken

or required to be taken. The Narrative Report is expected to relay to the Government, the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

3.5.3 Approved Changes Verification

Only Project Schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

3.5.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers; Activity Description; Original Duration; Remaining Duration; Early Start Date; Early Finish Date; Late Start Date; Late Finish Date; and, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in progress or completed.

3.5.4.1 Activity Report

A list of all activities sorted according to activity number.

3.5.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in ascending order by activity number. Preceeding and succeeding activities shall include all information listed in subparagraph "Schedule Reports" above. A blank line shall be left between each activity grouping.

3.5.4.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Date. Completed activities shall not be shown on this report.

3.5.4.4 Earnings Report

A compilation of the Contractor's Total Earnings n the project from the date of receipt of NTP until the most recent Monthly Progress Meeting. This report shall reflect the Earnings of specific activities based n the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update, this report shall serve as the basis of determining Contactor Payment. Activities shall be grouped by bid item and sorted by activity numbers. This report shall: sum all activities in a bid item and provide a bid item percent; and, complete and sum all bid items to provide a total project percent complete. The printed report shall contain, for each activity: the Activity Number; Activity Description; Original Budgeted Amount; Total Quantity; Quantity to Date; Percent Complete (based on cost); and, Earnings to Date.

3.5.5 Network Diagram

The network diagram shall be required on the initial schedule submission

and on monthly schedule update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.5.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity number, description, duration, and estimated earned value shall be shown on the diagram.

3.5.5.2 Project Milestone Dates

Dates shall be shown n the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.5.3 Critical Path

The critical path shall be clearly shown.

3.5.5.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

3.5.5.5 S-Curves

Earnings curves showing projected early and late earnings and earnings to date.

3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly on-site meeting or other regular intervals mutually agreed to at the Preconstruction Conference. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the Project Schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate. Refer to Section 01310 ADMINISTRATIVE PROCEDURES.

3.6.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

3.6.2 Update Submission Following Progress Meeting

A complete update of the Project Schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the monthly progress meeting.

3.6.3 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost-to-Date shall be subject to the approval of the Contracting Officer. As a minimum, the Contractor shall address the

following items on an activity by activity basis during each progress meeting.

3.6.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed.

3.6.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations shall be based on Remaining Duration for each activity.

3.6.3.3 Cost Completion

The earnings for each activity started. Payment will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.6.3.4 Logic Changes

All logic changes pertaining to NTP on change orders, change orders to be incorporated into the schedule, Contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

3.6.3.5 Other Changes

Other changes required due to delays in completion of any activity or group of activities include: (1) delays beyond the Contractor's control, such as strikes and unusual weather; (2) delays encountered due to submittals, Government Activities, deliveries or work stoppages which made re-planning the work necessary; and, (3) changes required to correct a schedule which does not represent the actual or planned prosecution and progress of the work.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, or any interim milestone date, the Contractor shall furnish the following for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract: justification; Project Schedule data; and, supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is obligatory to any approvals.

3.7.1 Justification of Delay

The Project Schedule shall clearly display that the Contractor has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon the Project Schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the Contractor's own actions,

which result in the extension of the schedule, will not be a cause for a time extension to the contract completion date.

3.7.2 Submission Requirements

The Contractor shall submit a justification for each request for a change in the contract completion date of under 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

a. A list of affected activities, with their associated Project Schedule activity number.

b. A brief explanation of the causes of the change.

c. An analysis of the overall impact of the changes proposed.

d. A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

3.7.3 Additional Submission Requirements

For any requested time extension of over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. The Contractor shall provide this disk within 4 days of the Contracting Officer's request.

3.8 DIRECTED CHANGES

If the NTP is issued for changes prior to settlement of price and/or time, the Contractor shall submit proposed schedule revisions to the Contracting Officer within 2 weeks of the NTP being issued. The proposed revisions to the schedule will be approved by the Contracting Officer prior to inclusion of those changes within the Project Schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor with suggested revisions to the Project Schedule. The Contractor shall include these revisions in the Project Schedule until revisions are submitted, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, the Contractor shall advise the Contracting Officer within 2 weeks of receipt of the revisions. Regardless of the objections, the Contractor shall continue to update the schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

3.9 OWNERSHIP OF FLOAT

Float available in the schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

-- End of Section --

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SECTION 01330

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Terminology

Submittals are items for Contractor quality control review and Contracting Officer quality documentation (For Information Only -- "FIO") or quality assurance review and approval (Government -- "G"). Contract contains a submittal register (SUBMITTAL FORM, Jan 96) to be used by Contractor to identify, schedule and track submittal items. Submittal Register is a scheduling device that is dynamic and constantly updated. A transmittal is a contract correspondence action using contract transmittal form (ENG Form 4025) that sends submittal items to Contracting Officer and back to Contractor. A copy of ENG Form 4025 is on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. ENG Form 4025 is used by both Contractor and Contracting Officer to record submittal item routing and record submittal review and action coding. Submittal Register and ENG Form 4025 work together for submittal information.

1.1.2 Government-Furnished Information

Appended to the end of this Section is a Submittal Register listing items of products, equipment, materials and procedures for submittals as required by contract. Contractor will also be furnished an electronic data file after Notice of Award with the following columns completed:

Column (c) -- "SPEC. SECT.": Lists specification section numbers in which submittal is required.

Column (d) -- "DESCRIPTION - ITEM SUBMITTED": Lists each submittal description (SD No. and type; e.g., SD-04 Drawings) required in each specification section.

Column (e) -- "PARAGRAPH #": Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in Column (e) as limiting project submittal requirements.

Column (f) -- "CLASSIFICATION GOVT OR A/E REVWR": Indicates reviewer for each submittal. Approving authority for all submittals remains the Contracting Officer. A "G" indicates approval by Contracting Officer and may include a review by Design A/E contracted to the Contracting Officer. A designation following the "G" identifies the office that will review the submittal for the Contracting Officer. Submittal designation codes identifying the office that will review the submittal for the Contracting Officer are identified as follows:

COR -- Construction-Operations Area/Resident/Project Engineer

(Contracting Officer's Representative)
ED -- Engineering Division (CESAJ-EN)
EDL -- Levees & Waterways Section (EN-DL)
EDM -- Mechanical & Electrical Section (EN-DM)
EDS -- Structures Section (EN-DS)
EDT -- Survey Section (EN-DT)
EGE -- Environmental & HTRW Section (EN-GE)
EGG -- Geology & Exploration Section (EN-GG)
EGS -- Soils Section (EN-GS)
A/E -- Architect Engineer Contractor providing engineering during construction
PD -- Planning Division (CESAJ-PD)
SO -- Safety Office (CESAJ-SO)

1.1.2.1 Software and Forms

Contractor shall use the Construction Contractor module of RMS, referred to as QCS, to run the submittal register. Refer to Section 01312 QUALITY CONTROL SYSTEM (QCS). Contractor will download QCS from the following web site: http://www.winrms.usace.army.mil/contractor's.htm. ENG Form 4025 and other useful forms are located at Jacksonville District Construction Branch web site: http://www.saj.usace.army.mil/conops/construction/construction_forms.

1.2 SUBMITTALS

Submit the following in accordance with the requirements of this Section:

SD-01 Preconstruction Submittals

Submittal Register; G|COR

Within 10 calendar days after the Preconstruction Conference, submit a proposed submittal register and QCS computer data file with data filled in for the following: Column (a) -- "ACTIVITY NO."; Column (h) -- "APPROVAL NEEDED BY"; and, Column (i) -- "MATERIAL NEEDED BY".

1.3 DEFINITIONS

1.3.1 Submittal

Shop drawings, product data, samples, and administrative submittals presented for review and approval. The following Clauses MATERIAL AND WORKMANSHIP, paragraph (b) and SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, paragraphs (d), (e), and (f) of Section 00700 CONTRACT CLAUSES apply to all "submittals".

1.3.2 Types of Submittals

All submittals are classified with a SD number and Title as indicated in paragraph SUBMITTAL IDENTIFICATION (SD) below. Submittals also are grouped as follows:

a. Shop drawings: As used in this Section, drawings, schedules, diagrams, and other data prepared specifically for this contract, by Contractor or through Contractor by way of subcontractor, manufacturer, supplier, distributor, or other lower tier Contractor, to illustrate portion of work.

b. Product data: Preprinted material such as illustrations, standard schedules, performance charts, instructions, brochures, diagrams, manufacturer's descriptive literature, catalog data, and other data to illustrate portion of work but not prepared exclusively for this contract.

c. Samples: Physical examples of products, materials, equipment, assemblies, or workmanship that are physically identical to portion of work, illustrating portion of work or establishing standards for evaluating appearance of finished work or both.

d. Administrative submittals: Data presented for reviews and approval to ensure that administrative requirements of project are adequately met but not to ensure directly that work is in accordance with design concept and in compliance with contract.

1.3.3 Approving Authority

Contractor Quality Control (CQC) System Manager shall be approving authority for "FIO" submittals. Contracting Officer's Representative, usually Area/Resident/Project Engineer, is Contracting Officer's approving authority. Jacksonville District employees, contracted Architect-Engineers, or employees from other USACE Districts who may review "G" submittal items and provide action codes act in capacity of technical advisors to Contracting Officer's Representative.

1.3.4 Work

As used in this Section, on- and off-site construction required by contract documents, including labor necessary to produce construction and materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3.5 Streamlined "G" Submittals

A Jacksonville District submittal procedure where the Government review approval process is streamlined for high priority "G" submittals to prevent delay. Concurrent with processing and handling of paper copies of submittals, a lesser number of copies of the submittal item may be overnight mailed, faxed, or scanned and sent via E-mail. Reviewer comments and recommended submittal review codes are E-mailed from reviewers to Contracting Officer.

1.3.6 Request for Information (RFI) Submittals

RFIs are Contractor inquiries for clarification of contract documents and are not considered submittals. Contractor proposed methods to control RFIs shall be described as part of Contractor's Quality Control Plan. Refer to Section 01451 CONTRACTOR QUALITY CONTROL.

1.4 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

SD-01 Preconstruction Submittals

Administrative submittals, after Notice of Award and prior to Preconstruction Conference -- Refer to Sections 01310 ADMINISTRATIVE

PROCEDURES, 01320 PROJECT SCHEDULE, 01355 ENVIRONMENTAL PROTECTION, 01500 TEMPORARY CONSTRUCTION FACILITIES, and 01550 TRAFFIC CONTROL.

Administrative submittals during construction; i.e., public notices, detailed work plans, etc.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accordance with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Data, records, reports from Contractor documenting the construction, production, or regulatory compliance.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

As-built drawings.

Special warranties.

Posted operating instructions.

Training plan.

1.5 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.5.1 Government Approved "G"

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION of Section 00700 CONTRACT CLAUSES, they are considered to be "shop drawings." Government approval submittal items are designated with a "G".

1.5.2 Information Only

All submittals not requiring Government approval will be for "FIO". They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above. "FIO" submittals are used as documentation of contract compliance. "FIO" submittals transmitted to Contracting Officer will be "spot checked" for contract compliance and coded "F -- Receipt acknowledged" or "FX -- Receipt acknowledged, does not comply as noted with contract requirements" (see instructions on the back of ENG Form 4025). Retransmit submittal items coded "FX" for Government approval "G" submittal

item. Order products or materials from fabricators or suppliers after an information only submittal has received an "F" code.

1.6 APPROVED SUBMITTALS

Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.7 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Clause CHANGES of Section 00700 CONTRACT CLAUSES shall be given promptly to the Contracting Officer.

1.8 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

Contractor shall furnish submittals required by contract and transmit them to the Contracting Officer using ENG Form 4025 as contract transmittal form. Transmit all submittals to:

U.S. Army Corps of Engineers (Ph 787.729.6880)
San Juan Resident Office (Fax 787.729.6681)
400 Fernandez Juncos
San Juan, PR 00901-3299

Contracting Officer may request additional submittal items when necessary to describe work covered in respective contract sections. Units of weights and measures used on submittal items shall be the same as those used in the contract drawings. Each submittal item shall be identified with contract number, stamped, signed, and dated by the CQC System Manager (see paragraph CONTRACTOR REVIEW STAMP below). Each submittal shall be complete and in sufficient detail to allow reviewer determination of contract compliance. Prior to transmitting submittal items to Contracting Officer, Contractor's Quality Control (CQC) System Manager shall review, provide appropriate code and certify listed submittal items meet contract or are a requested variation. Submittal items requiring Government approval "G" shall be scheduled and approved (Contracting Officer's action code of "A" or "B") prior to acquisition of material or equipment covered thereby. Samples

remaining upon completion of work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER

At the end of this section is a Submittal Register listing items of equipment and materials for which submittals are required by the contract. Contractor will also be given an electronic data file as specified in subparagraph "Government-Furnished Information" above. Upon receiving contract, including submittal register and data file, Contractor shall complete columns (a), (g), (h), and (i) and submit for Government approval. This list may not be all inclusive and submittal items found during Contractor's preconstruction review shall be added. Contractor shall maintain project submittal register up-to-date. Submit an updated copy to the Contracting Officer with each pay request. Maintain project submittal register using QCS in accordance with Section 01312 QUALITY CONTROL SYSTEM (QCS).

3.2.1 Instructions for Completing Submittal Register (SUBMITTAL FORM, JAN 96)

Contractor to complete Columns (a), (b), and (g) through (r):

Column (a) -- "ACTIVITY NO.": Assign an event number and show on Critical Path Method (CPM) schedule; or identify "submittal item" with a control number for use in ENG Form 4025 column (a). Using a numbering system allowing for additions (e.g., 005, 010, 015) is useful.

Column (b) -- "TRANSMITTAL NO.": Transmittal number should match ENG Form 4025 transmittal number used to transmit submittal item to Contracting Officer.

Column (g) -- "SUBMIT": Contractor scheduled date for transmitting submittal item to Contracting Officer.

Column (h) -- "APPROVAL NEEDED BY": Planned date for needed Contracting Officer review actions to prevent delay.

(For "G" submittal items, "A" or "B" action codes are required. For "FIO" submittal items, "F" code is required. Initially schedule Column (h) dates allowing float for disapproved submittal items and retransmittal for review (approximately 45-60 days).

Column (i) -- "MATERIAL NEEDED BY": Date material is needed for use at the project site.

Column (j) -- "ACTION CODE": Contractor's Quality Control reviewer code from list of action codes. See subparagraph "ENG Form 4025 Reviewer Action Codes" below.

Column (k) -- "DATE OF ACTION": Date of QC review and signing certification on ENG Form 4025.

Column (l) -- "DATE FWD TO APPR AUTH/DATE RCD FROM CONTR": Date submittal item transmitted to Contracting Officer.

Columns (m) -- "DATE FWD TO OTHER REVIEWER";
(n) -- "DATE RCD FROM OTHER REVIEWER";

(o) -- "ACTION CODE";
(p) -- "DATE OF ACTION"; and,
(q) -- "MAILED TO CONTR/DATE RCD FROM APPR AUTH": Record dates and action codes as shown on ENG Form 4025 received back from Contracting Officer.

Column (r) -- "REMARKS": Used by Contractor or Contracting Officer as needed. Ensure submittal items transmitted as variations are identified in column (r).

3.2.2 Personal Computer or Manual Submittal Registers

Prepare submittal register and maintain it current as work progresses. Contractor may find using color codes (i.e., "green" - accepted; "yellow" - pending; "red" - rejected) for tracking submittal status useful. Contractor has option to use a personal computer based submittal register or a manual submittal register. At Jacksonville District Internet site, http://www.saj.usace.army.mil/conops/construction/construction_forms.htm there is a computer file (Microsoft Excel(TM)), available for Contractor download and use. Contractor may furnish his own commercial software having a Submittal Register. If Contractor selects a commercial software, furnish a licensed copy for use by Contracting Officer. In place of a computer file Submittal Register, Contractor has an option to use a manual Submittal Register. When manual Submittal Register is used, all entries shall be in pencil.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for Government "G" review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.3.1 Avoiding Delay

Contracting Officer wants to avoid project delays due to late transmittal of a "G" submittal item or untimely Contracting Officer review. When Contractor identifies possible construction delays due to a submittal, notify the Contacting Officer immediately.

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025), on the web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below, shall be used for submitting both Government approved "G" and "FIO" submittal items. A ENG Form 4025 computer file in versions of Microsoft Word(tm) .doc file and Adobe Acrobat(tm) .pdf file are available for Contractor downloading and contract use at:
http://www.saj.usace.army.mil/conops/construction/construction_forms.htm.
ENG Form 4025 is included in the QCS software that the Contractor is required to use for this contract.

3.4.1 ENG Form 4025 Reviewer Action Codes

Contractor shall use action codes to document submittal item review of shop drawings, materials and product received from subcontractors, suppliers and

fabricators. Contracting Officer will use same codes for his review. Action codes for contract use are:

A -- Approved as submitted.
B -- Approved, except as noted on drawings. (Make minor corrections; resubmission not required.)
C -- Approved, except as noted on drawings. (Refer to review comments for required corrections; resubmission is required.)
D -- Will be returned by separate correspondence with detailed comments. Resubmittal is required.
E -- Disapproved; resubmittal required.
F -- Receipt acknowledged (for Government use for "FIO" items).
FX -- Receipt acknowledged, does not comply with contract; resubmittal required as "G" submittal item.
G -- Other (Reviewer shall specify the action in detail).

Contractor shall enter appropriate action code in ENG Form 4025 Column (g) -- "FOR CONTRACTOR USE CODE" and Submittal Register Column (j) -- "CONTRACTOR ACTION - ACTION CODE".

Contracting Officer will enter "G" submittal item reviewer action code in ENG Form 4025 Column (i) -- "FOR CE USE CODE".

Contractor will enter review codes received from Contracting Officer in Submittal Register Column (o) -- "APPROVING AUTHORITY - ACTION CODE".

Approval action codes of "F", "A", and "B" given to submittal items by Contracting Officer does not relieve Contractor from complying with contract requirements. Contracting Officer reserves right to rescind inadvertent submittal item approvals that do not comply with contract.

3.4.2 ENG Form 4025 Transmittal Instructions

Attach a copy of ENG Form 4025 to each copy of a set of submittal items transmitted to Contracting Officer. Instructions located on the reverse side of ENG Form 4025, May 91 are obsolete. Revised instructions for Jacksonville District use are listed below. This revision describes ENG Form 4025 use with Submittal Register "SUBMITTAL FORM, Jan 96" used by other Government agencies.

REVISED ENG FORM 4025 INSTRUCTIONS:

1. Block -- "DATE": Enter the date transmitted to the Contracting Officer. Corresponds with Submittal Register Column (l) -- "DATE FWD TO APPR AUTH". For "G" submittals this date, plus actual mailing time, starts Contracting Officer review period.

2. Block -- "TRANSMITTAL NO.": A transmittal is an action that combines required submittal items from one Section (e.g., Section 02300 EARTHWORK) and transmits them from Contractor to Contracting Officer. ENG Form 4025 Transmittal Numbers shall be numbered consecutively and should be tracked as separate contract correspondence. Enter each ENG Form 4025 Transmittal Number in the Submittal Register Column (b -- "TRANSMITTAL NO.".

3. Blocks -- "TO", "FROM", and "CONTRACT NUMBER": Self-explanatory.

4. Block -- "CHECK ONE":

THIS IS A NEW TRANSMITTAL -- Self-explanatory.
THIS IS A RESUBMITTAL OF TRANSMITTAL _____.

When a submittal item has been coded "C", "D", "E", "FX", "G" insert the original Transmittal No. (This helps reviewers locate submittal items from contract files for comparison to original submittal.)

5. Block -- "SPECIFICATION SEC. NO.": Enter the five digit Section number from Submittal Register Column (c) -- "SPEC SECT." where submittal items are required. Contractor shall organize transmittals so that all items sent under one transmittal number are from the same Section. When Contractor adds a submittal item called for in a drawing note, assign the specification Section number that most closely covers the work.

6. Column (a.) -- "ITEM NO.": Contractor has options to identify submittal item.

Contracting Officer has seen various successful systems to control submittal items. Contracting Officer recommends to assign a unique number to each submittal item that does not change. Assigning a unique number for each submittal item helps when computer interrelational databases or spreadsheets are used. Consider using a numbering system (e.g., 005, 010, 015, 020) that leaves spaces for additional submittal items.

7. Column (b.) -- "DESCRIPTION OF ITEM SUBMITTED (Type size, model number/etc.)": Enter a complete description of each submittal item being transmitted to the Contracting Officer.

Submittal Register and ENG Form 4025 are used together to identify, schedule and track all required items to be submitted for Contractor or Contracting Officer review. For some specification sections having many sub-component items for submittal, the entry in Submittal Register Column (d) -- "DESCRIPTION ITEM SUBMITTED" provided to Contractor has a general class of products. For example, Section 15110 VALVES, may have SD-03 Product Data - "Valves" listed for a submittal item. In example case, Contractor shall list and track each valve that requires a separate review and action code as a separate submittal item. This may require additional entries in both Submittal Register and assigning additional item numbers.

8. Column (c.) -- "MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO.": This entry requirement has been eliminated from use in Jacksonville District submittal procedures.

9. Column (d.) -- "NO. OF COPIES": Enter the number of copies transmitted to the Contracting Officer.

10. CONTRACT REFERENCE DOCUMENT:

Column (e.) -- "SPEC. PARA. NO.": Enter the Section subpart number that specified each submittal item. Most of these are provided by Contracting Officer on Submittal Register Column (e) -- "PARAGRAPH #"; however, during Contractor preconstruction review there may be additional submittal items found in

specification text; or,

Column (f.) -- "DRAWING SHEET NO.": Occasionally during Contractor's preconstruction review, Contractor may discover a drawing note that requires a submittal item to be added to the submittal register. Identify Drawing No. and alpha-numeric matrix zone designation where item is required for submittal (e.g., 6/2,H-2).

11. Column (g.) -- "FOR CONTRACTOR USE CODE": Enter action codes given by Contractor's approving authority (CQC System Manager) to items furnished by subcontractor, supplier, or fabricators for transmittal to Contracting Officer. Items coded other than "A" or "B" should be immediately returned to subcontractor, supplier, or fabricator and forwarded to Contracting Officer.

12. Column (h.) -- "VARIATION": Place an "X" when transmitting a submittal item that is a variation. Column (h.) is to be used only for submittal items that do not meet contract requirements, however, are being proposed for use as "variations" from contract requirements. Variations require Contracting Officer approval pursuant to Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION of Section 00700 CONTRACT CLAUSES. Submittal items proposed as a variation become "G" submittals.

13. Column (i.) -- "FOR CE USE CODE": Leave Blank. This column is for use by Contracting Officer to provide action code to Contractor.

14. Block -- "REMARKS": Used by Contractor or Contracting Officer to provide additional information on transmitted submittal items. When Column (h.) has an "X", Contractor shall make a mandatory remark to note variation is submitted. ENG Form 4025 "REMARKS" block and attachments are used as needed to fully describe variations or Contracting Officer action codes.

15. Block -- "CERTIFICATION": Self-explanatory. Contractor's approving authority shall sign and certify transmittals sent to Contracting Officer. (For electronic versions, use "/S/ and name" to officially indicate paper version has been signed.

16. Block -- "SECTION II - APPROVAL ACTION": Reserved for Contracting Officer use.

3.5 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

3.5.1 Procedures

Transmit 8 copies of "G" submittal items and 5 copies of "FIO" submittals to Contracting Officer.

3.5.2 Variations

Variations are described in Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION of Section 00700 CONTRACT CLAUSES. Variations are Contractor proposed changes to contract quality for those submittal items identified and transmitted as variations. "FIO" submittal items become "G" submittal items for Government review and approval. Ensure ENG Form 4025 Column (h.) has an "X" and variation is described in writing in "REMARKS" block. Once

approved by Contracting Officer, variations modify contract requirements. Approved variations may require adjustments to contract price for increased cost ("change order") or decreased costs ("Owner's credit") and construction period. Contracting Officer reserves right to rescind inadvertent approval of submittal items containing unnoted variations.

3.5.3 Construction Drawings

These drawings and necessary dates shall be listed on the Submittal Register as required by the specifications. The submission of construction drawings shall be as previously prescribed for shop drawings and transmittal forms. All construction drawings shall be prepared on sheets 28"x40" in size, unless otherwise approved, and shall have a clear space 3"x4" in size in the lower right hand corner just above the title in which the Contracting Officer may indicate the action taken. These drawings shall be complete and shall contain all required detailed information. If approved by the Contracting Officer, each copy of drawings will be identified as having received such approval by being so stamped and dated. The Contractor shall make any corrections required by the Contracting Officer and shall resubmit the required number of prints or drawings for approval. Work shall not be started until all required drawings pertaining to the work have been approved. Two (2) copies of final approved drawings will be returned to the Contractor. The approval of drawings by the Contracting Officer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of responsibility for any error which may exist as the Contractor shall be responsible for the design of adequate protective facilities and satisfactory construction of all work.

3.6 CONTROL OF SUBMITTALS

Carefully control procurement operations to ensure that each submittal item is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register".

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, submittals will be identified as having received approval by being so stamped and dated. Five (5) copies of the submittal will be retained by the Contracting Officer and three (3) copies of the submittal will be returned to the Contractor. For streamlined "G" submittals, action coding and comment response are returned via a standard format E-mail to Contracting Officer's Representative for transmittal back to Contractor. Contractor shall attach a copy of Contracting Officer review action to the file copies of the submittal item.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for "FIO" are approved by Contractor. "FIO" submittals will be spot-checked by Contracting Officer for contract compliance. "FIO" submittal items are not usually returned and Contractor will be notified by Contracting Officer that they have received an "F" action code. Submittal items found not to comply with contract requirements will be given an action code of "FX" and returned to the Contractor. Contractor shall resubmit submittal items coded as "FX" for Government "G" approval. Government reserves right to require Contractor to resubmit items later found not to comply with contract. This does not relieve the Contractor

from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by Contracting Officer laboratory or for check testing by Contracting Officer in those instances required by the contract.

3.9 CONTRACTOR REVIEW STAMP

Prior to transmitting a submittal to Contracting Officer, Contractor CQC System Manager shall stamp top sheet of each copy of a submittal item to certify that submittal item meets contract requirements. Stamp shall be similar to the following:

(CONTRACT NUMBER: W912EP-XX-C-00XX)
(Contractor NAME)

_____ "A" - Approved as Noted

_____ "B" - Approved with corrections as noted on submittal item or attached sheet(s)

SIGNATURE: _____

TITLE: _____

DATE: _____ PHONE: _____

3.10 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm.

3.11 SUBMITTAL REGISTER

The Submittal Register is appended to the end of this section (see next page).

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Estate Mon Bijou, Flood Control Channel (Rev Am #0003)

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01110	SD-01 Preconstruction Submittals															
			Video Tape and Documentation															
		01270	SD-01 Preconstruction Submittals															
			Schedule of Values		G COR													
		01310	SD-01 Preconstruction Submittals															
			List of Subcontractors															
			Signature Authority															
			Drug-Free Work Place Record															
		01312	SD-01 Preconstruction Submittals															
			First QCS Export		G COR													
		01320	SD-01 Preconstruction Submittals															
			Preliminary Project Schedule		G COR													
			(PPS)															
			Initial PPS		G COR													
			SD-07 Certificates															
			Periodic Schedule Updates	3.4.3	G COR													
		01330	SD-01 Preconstruction Submittals															
			Submittal Register	3.2	G COR													
		01355	SD-01 Preconstruction Submittals															
			Environmental Protection Plan	1.8	G PD													
			Environmental Protection Plan	3.1.5	G PD													
			Environmental Protection Plan	3.3	G PD													
			Environmental Protection Plan	3.3	G PD													
			SD-11 Closeout Submittals															
			Logs/Final Summary Report															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Estate Mon Bijou, Flood Control Channel (Rev Am #0003)

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01355	Project Environmental Summary	1.7														
			Sheet															
		01451	SD-01 Preconstruction Submittals															
			Laboratory Qualifications	3.7.2	G COR													
			Contractor Quality Control (CQC)	3.2	G COR													
			Plan															
			Letter of Authority	3.2.2														
		01500	SD-01 Preconstruction Submittals															
			Mobilization/Demobilization Plan															
			Security Plan	3.7														
			Manufacturer's Literature for															
			Equipped Boat, Trailer, and															
			Hand-Held Radios															
			SD-02 Shop Drawings															
			Contractor's Temporary Facilities	3.6														
			Contracting Officer's Field Office	2.1														
			Trailer															
			Temporary Electric Drawings															
			Construction Drawings		G COR													
		01525	SD-01 Preconstruction Submittals															
			Accident Prevention Plan (APP)	1.6	G COR													
			Activity Hazard Analyses (AHA)	1.7	G COR													
			Employee Safety and Health															
			Indoctrination (ESHI) and Training															
			Plan															
			Hazard Communication Plan	1.9														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Estate Mon Bijou, Flood Control Channel (Rev Am #0003)

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01525	Emergency Response Plan	1.11														
			Hurricane and Severe Storm Plan	1.10	G COR													
			Critical Lift Plan		G COR													
			Confined Space Plan	1.13	G COR													
			Spill Response Plan		G COR													
			SD-04 Samples															
			Sample Scaffold															
			SD-07 Certificates															
			Safety Officer Qualifications	1.15.1	G COR													
			Crane Equipment	1.20.5														
		01550	SD-01 Preconstruction Submittals															
			Traffic Control Plan		G COR													
		01780	SD-02 Shop Drawings															
			As-Built Drawings	1.2.1	G COR													
		02220	SD-07 Certificates															
			Demolition plan	1.9	G COR													
			Notifications	1.4.1	G COR													
			Notification of Demolition and		G COR													
			Renovation forms															
		02231	SD-03 Product Data															
			Materials Other Than Salable		G COR													
			Timber															
		02316	SD-02 Shop Drawings															
			Trench Excavation Plan		G COR													
			SD-06 Test Reports															
			Laboratory and Field Test Reports															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Estate Mon Bijou, Flood Control Channel (Rev Am #0003)

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02331	SD-01 Preconstruction Submittals															
			Construction Procedures		G COR													
		02371A	SD-04 Samples															
			Gabion Stone		G COR													
			SD-06 Test Reports															
			Stone Fill	2.1.5	G EN													
			SD-07 Certificates															
			Gabions		G COR													
		02377A	SD-06 Test Reports															
			Borrow Source Assessment	3.1	G ED													
		02378A	SD-07 Certificates															
			Geotextile	2.1.1	G ED													
		02510A	SD-01 Preconstruction Submittals															
			Detailed Drawings		G COR													
			Relocation Work Plan		G COR													
			SD-03 Product Data															
			Installation	3.1	G COR													
			Waste Water Disposal Method		G COR													
			Satisfactory Installation		G COR													
			SD-06 Test Reports															
			Bacteriological Disinfection		G COR													
		02740	SD-03 Product Data															
			Waybills and Delivery Tickets	1.6	G COR													
			SD-06 Test Reports															
			Tests		G COR													
		02821A	SD-07 Certificates															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Estate Mon Bijou, Flood Control Channel (Rev Am #0003)

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02821A	Chain Link Fence	2.1.1	G COR													

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SECTION 01355

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

This Section covers prevention of environmental damage as the result of construction operations under this contract and for those measures set forth in other Technical Requirements of these specifications. For the purpose of this specification, environmental damage is defined as the presence of hazardous, physical, chemical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; affect other species, biological communities, or ecosystems; or degrade the quality of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants.

1.2 REFERENCES

1.2.1 Miscellaneous Environmental Laws And Regulations

There are numerous environmental laws and regulations. At the Federal level, the applicable laws and regulations include compliance with the Clean Water Act (CWA); Clean Air Act (CAA); Coastal Zone Management Act (CZMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); National Environmental Policy Act (NEPA); National Historic Preservation Act (NHPA); National Pollution Discharge Elimination System (NPDES); Research and Sanctuaries Act; Native American Graves Protection and Repatriation Act (NAGPRA); Resource Conservation and Recovery Act (RCRA); Rivers and Harbors Act (R&H); Safe Drinking Water Act (SDWA); Toxic Substance Control Act (TSCA); Wild and Scenic Rivers Act (WSRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Code of Federal Regulations (CFRs); Executive Orders; and, Environmental Protection Agency (EPA) requirements. NEPA compliance measures specified in an Environmental Assessment (EA) or Environmental Impact Statements (EIS) are also applicable with regard to compliance.

1.2.2 Publication Reference(s)

The publication(s) listed below form(s) a part of this specification to the extent referenced. The publication(s) is referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE EM 385-1-1	(2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual

COE EM 1110-1-1003	(1996) NAVSTAR Global Positioning System Surveying
COE ER 1110-1-5	(1984) Plant Pest Quarantined Areas and Foreign Soil Samples

1.3 QUALITY CONTROL

The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record on daily quality control reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective action taken.

1.4 PERMITS AND AUTHORIZATIONS

The Contractor shall comply with all requirements under the terms and conditions set out in all permit(s).

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G|PD

Within 20 calendar days after the date of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan no later than 30 calendar days after receipt of Notice to Proceed. Acceptance of the Contractor's plan shall not relieve the Contractor of his responsibility for adequate and continuing control of pollutants and other environmental protection measures. Acceptance of the plan is conditional and predicated on satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes to the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include but not be limited to the following:

a. A list of Federal, Territorial, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.

b. Methods for protection of features to be preserved within authorized work areas. The Contractor shall prepare a listing of methods to protect resources needing protection, i.e., trees,

shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological, and cultural resources.

c. Procedures to be implemented to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures set out in accordance with the environmental protection plan.

d. A permit or license for and the location of the solid waste disposal area.

e. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossing, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

f. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.

g. Traffic control plan.

h. Methods of protecting surface and ground water during construction activities.

i. Spill prevention. The Contractor shall specify all potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, ground, water, wetlands, or drainage areas. The plan shall specify the Contractor's provisions to be taken to meet Federal, Territorial, and local laws and regulations regarding labeling, storage, removal, transport, and disposal of potentially hazardous substances.

j. Spill contingency plan for hazardous, toxic, or petroleum material.

k. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

l. Plan of borrow area(s).

m. A statement as to the person who shall be responsible for implementation of the Environmental Protection Plan. The Contractor personnel responsible shall report directly to the Contractor's top management and shall have the authority to act for the Contractor in all environmental protection matters.

n. Recycling and Waste Management Plan. Executive Order 12873 of 20 October 1993 requires a number of considerations in planning a project. Fallen trees should not be burned or buried. Mulching, composting, and other uses for trees should be considered. Also, recovery of metals at the job site, including aluminum cans, should be considered with proceeds to be retained

by the Contractor. Non-Federal recycling and waste minimization efforts shall also be incorporated into this plan.

SD-11 Closeout Submittals

Logs/Final Summary Report

Contractor shall submit as specified, logs and final summary report of sightings and incidents with endangered species.

Project Environmental Summary Sheet

Contractor shall submit within 30 days following completion of the project, a written report of the absence or occurrence of environmental incidents. In addition, for construction activities whose anticipated duration is more than one calendar year, the Contractor shall complete a sheet each May 31st (plus/minus 14 days).

1.6 SUBCONTRACTORS

Assurance of compliance with this section by subcontractors shall be the responsibility of the Contractor.

1.7 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the aforementioned Federal, Territorial, or local laws or regulations, permits and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action as may be approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspension.

Additionally, the Contractor shall notify the Contracting Officer, in writing, of the absence or occurrence of environmental incidents, as required on the Project Environmental Summary Sheet, copy on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Refer to paragraph SUBMITTALS above.

1.8 CONTRACTOR PERSONNEL QUALIFICATIONS IN POLLUTION CONTROL

The Contractor's personnel shall be qualified to perform all phases of environmental protection, including methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and careful installation and monitoring of the project to ensure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly knowledgeable of Federal, Territorial, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the Contractor. Quality Control personnel will be identified in the Quality Control Plan submitted in accordance with Section 01451 CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

For contract work, the Contractor shall comply with all applicable Federal, Territorial, or local laws and regulations. The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected at least during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications. Deviations from drawings or specifications (e.g., proposed alternate borrow areas, disposal areas, staging areas, and alternate access routes) could result in the need for the Government to reanalyze and re-approve the project from an environmental standpoint. Environmental protection shall be as stated in the following subparagraphs.

3.1.1 General Project Environmental Design and Installation Criteria

Some project sites have features that shall not be impacted in any way, including cultural, historic, or archeological features. At all sites, project plans should minimize disturbance to existing features at the site to the extent possible, including vegetative, topographic, and drainage pattern features. Wetland impacts (temporary access, detours, staging areas, and other work area impacts) to project sites should be avoided and may require separate permitting action. Any wetlands temporarily impacted shall have its soil restored upon project completion. Expansion of previously permitted project footprints may likewise require separate permitting action.

In all cases, the design and/or installation of project system shall provide for protection of the environment during handling, installing, storing, utilizing, transporting, servicing, testing, refilling, transferring, pumping, processing, removing waste products, repairing and maintaining systems and their components. Necessary design protection shall also be considered that would prevent contamination of the environment from impacts to the system caused by storm water runoff and flooding. Retrofit of connected systems on project sites to modern environmental protection design standards shall also be considered.

In the event environmental protection measures fail, the Contractor shall implement procedures to control and correct environmental damage.

3.1.1.1 Sewage-Based Systems Environmental Design and Installation Criteria

In general, there shall be no waste or debris discharges of any kind for a project unless authorized by the Contracting Officer. This shall include the Contractor's providing sufficient temporary sanitary equipment and facilities for the project. The design and/or installation of temporary or permanent sewage systems shall ensure that waters will be free of effects of sewage discharges. Applicable Federal, Territorial, or local codes and requirements regarding sewage shall be strictly adhered to in the design, such as those of the EPA and, in the case of the State, Chapter 62-620 (Wastewater Facilities) of the FAC. Best Management Practices from the applicable agencies shall also be adhered to in the design.

3.1.2 Protection of Land Resources

Prior to the beginning of any construction, the Contractor shall identify all land resources to be preserved or avoided within the Contractor's work area. Materials displaced into uncleared areas shall be removed. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer. The Contractor shall engage a qualified tree surgeon to perform all tree surgery. The Contractor shall be responsible to repair injuries to bark, trunk, branches, and roots of protected trees by dressing, cutting, and painting as specified for Class I Fine Pruning, of the National Arborist Association Pruning Standards for Shade Tree or as per State's Agricultural Extension Agency Guidelines, immediately as occurrences arise. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs.

3.1.2.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas that are not required to accomplish all work to be performed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. The Contractor shall protect from damage all existing trees designated to remain. Protection of tree roots shall be provided against noxious materials in solution caused by run-off or spillage. Fires shall be located outside the canopy of protected trees. No materials, trailers, or equipment shall be stored within the drip line of any protected tree. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and/or protection of all necessary objects.

The Contractor shall thoroughly clean all construction equipment and tools at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the U.S. Department of Agriculture (USDA) regarding additional cleaning requirements that may be necessary. In addition, if this contract involves the identification, shipping, storage, testing, or disposal of soils from such a quarantined area, the Contractor agrees to comply with the provisions of COE ER 1110-1-5 and attachments. The Contractor agrees to assure compliance with this obligation by all subcontractors.

3.1.2.2 Protection of Landscape

Trees and their roots, shrubs, vines, grasses, land forms, and other landscape features shall be clearly identified and protected by fencing or any other approved techniques. Protection of trees shall be as illustrated in the Tree Protection Plan Detail on the web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below. Tree protection fencing shall be placed before excavation or grading is begun and maintained in place until construction is complete. Branches of protected trees, if required, shall be removed to clear for construction and pruning shall subsequently be performed to restore the natural shape of the entire tree. Branches or roots, if required, shall be cut with sharp pruning instruments and not broken or chopped. Protected trees shall be fertilized to

compensate for root loss with 6-6-6 as per manufacturer's application direction. Any damage to tree crowns or roots shall be repaired promptly after damage occurs.

a. Trench or Bore Under Trees: Where trenching for utilities is required within tree driplines, the Contractor shall hand dig under and around roots or bore under them. The Contractor shall protect roots from drying and cover exposed roots within an hour as specified in subparagraph "Excavation for Structures" below. No lateral roots which interfere with new construction shall be cut. Boring is permitted.

b. Excavation for Structures: Where excavating for new construction is required within tree drip lines, the Contractor shall hand excavate to minimize damage to root systems. The Contractor shall use narrow tine pitchforks and comb soil to expose roots. The Contractor shall relocate roots in backfill areas. If large, main lateral roots are encountered that are exposed beyond the excavation limits, the Contractor shall bend and relocate these roots without breaking or girdling. If roots are encountered immediately adjacent to new construction such that relocation is not practical, the Contractor shall saw roots approximately 3" back from the new construction, seal with tree wound dressing, and protect any exposed embankment of roots from drying by covering with straw and black plastic. The Contractor shall irrigate affected areas daily until final grade conditions are established and the exposed roots are backfilled properly for continued plant growth.

c. Replacement: The Contractor shall remove dead or damaged protected trees determined, by the Government, to be incapable of restoration to normal health growth. The Contractor shall replace each removed tree up to 4" caliper with tree of equal specie and size. For each tree removed larger than a 4" caliper, the Contractor shall replace the tree with one 4" caliper tree per 4" caliper increment or fraction thereof.

3.1.2.3 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in instances where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the areas developed as approved by the Contracting Officer.

3.1.2.4 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

a. Retardation and Control of Runoff: Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, and by any measures required by area wide plans approved under paragraph 208 of the Clean Water Act.

b. Erosion and Sedimentation Control Devices: The Contractor shall

construct or install temporary and permanent erosion and sedimentation control features as directed by the Contracting Officer. Temporary velocity dissipation devices shall be placed along drainage courses so as to provide for non-erosive flows. Temporary erosion and sediment control measures such as berms, dikes, drains, sediment traps, sedimentation basins, grassing, mulching, baled hay or straw, and silt fences shall be maintained until permanent drainage and erosion control facilities are completed and operative. For silt fences, the filter fabric is to be of nylon, polyester, propylene, or ethylene yarn of at least 50 lb/in strength and able to withstand a flow rate of at least 0.3 gal/ft sq/minute. The fabric should contain ultraviolet ray inhibitors and stabilizers and be a minimum of 45 inches in width. The toe of the fence shall be buried at least 8 inches deep to prevent undercutting and shall be secured to posts by suitable staples, tie wire, or hog rings. Posts shall have a cross section of at least 2"x4" and a minimum of 4 foot in length. Fence shall be overlapped to the next post if fabric joints are necessary.

c. Sediment Basins: Sediment from construction areas shall be trapped in temporary or permanent sediment basins in accordance with basin plans shown on the drawings. The basins shall accommodate the runoff of a local 24-hour storm. After each storm, the basins shall be pumped dry and accumulated sediment shall be removed as necessary to maintain basin effectiveness. Overflow shall be controlled by paved weir or by vertical overflow pipe, draining from the surface. The collected topsoil sediment shall be reused for fill on the construction site, and/or conserved (stockpiled) for use at another site(s). The Contractor shall institute effluent quality monitoring programs as required by Territorial and local environmental agencies.

3.1.2.5 Contractor Facilities and Other Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made when approved by the Contracting Officer. Borrow areas shall be managed to minimize erosion and to prevent sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment. If there is suspicion that sediment may be unsuitable for disposal at a specified location, the Contractor shall immediately take measures to contain the suspect sediment and notify the Contracting Officer.

3.1.2.6 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination. Solid waste materials shall be hauled to an approved solid waste disposal site designated by the Contracting Officer. The Contractor shall comply with Federal, Territorial, and local regulations pertaining to the use of the solid waste disposal site.

3.1.2.7 Fuel, Oil, and Lubricants

Fuel, oil, and lubricants shall be managed so as to prevent spills and evaporation. To prevent spills, fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur, the Contractor shall immediately recover the contaminated ground and dispose of it offsite in an approved area. Petroleum waste generated shall be stored in marked corrosion-resistant containers and recycled or disposed of in accordance with 40 CFR 279, Territorial, and local regulations.

3.1.2.8 Hazardous Waste

Hazardous wastes are defined in 40 CFR 261. The Contractor shall ensure that hazardous wastes are stored and disposed of in accordance with 40 CFR 261 and Territorial and local regulations. The Contractor shall ensure that hazardous wastes are packed, labeled, and transported in accordance with 49 CFR 173 and Territorial and local regulations.

3.1.2.9 Hazardous Materials

The Contractor shall ensure that hazardous materials are labeled, stored, and transported in accordance with 49 CFR 173, Territorial, and local regulations.

3.1.2.10 Disposal of Other Materials

Other materials than previously discussed (Construction and Demolition, vegetative waste, etc.) shall be handled as directed.

3.1.3 Preservation and Recovery of Historic, Archeological, and Cultural Resources

3.1.3.1 Applicable Law

A number of Federal laws require protection of cultural resources. Two laws, in particular, can be potentially involved with dredging activities: (1) the National Historic Preservation Act, as amended; and, (2) the Abandoned Shipwreck Act.

3.1.3.2 Known Resources

If known historic, archeological and cultural resources within the Contractor's work area(s) are present, it will be designated as a "sensitive environmental area" on the contract drawings or other documents. If so designated, the Contractor shall install protection for these resources and shall be responsible for their preservation during the contract's duration. The Contractor shall not distribute maps or other information on these resource locations except for distribution among the Contractor's staff with a "need to know" technical responsibility for protecting the resources.

3.1.3.3 Inadvertent Discoveries

If, during or other construction activities, the Contractor observes items

that may have historic or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate Corps staff may be notified and a determination for what, if any, additional action is needed. Examples of historic, archeological and cultural resources are bones, remains, artifacts, shell, midden, charcoal or other deposits, rocks or coral, evidences of agricultural or other human activity, alignments, and constructed features. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from further removing, or otherwise damaging, such resources.

The possibility of encountering submerged cultural resources is inherent in dredging and snagging operations. Such findings could include shipwrecks, shipwreck debris fields (such as streamed engine parts), prehistoric watercraft (such as log "dugouts"), and other structural features intact or displaced. The materials may be deeply buried in sediment, resting in shallow sediments or above them, or protruding into water. Suspected cultural materials inadvertently gathered from a water-saturated context should be kept moist by re-immersion, spraying, or some other expedient means of wetting until the appropriate Corps staff provide further directives. No interviews or other contact with media shall occur without clear authorization from the Contracting Officer or the appropriate Corps representative.

3.1.3.4 Claims for Downtime due to Inadvertent Discoveries

Upon discovery and subsequent reporting of a possible inadvertent discovery of cultural resources, the Contractor shall seek to continue work well away from, or otherwise protectively avoiding, the area of interest, or in some other manner that strives to continue productive activities in keeping with the contract. Should an inadvertent discovery be of the nature that substantial impact(s) to the work schedule are evident, such delays shall be coordinated with the Contracting Officer. Contract adjustments resulting from compliance with this paragraph shall be determined in accordance with Clause DIFFERING SITE CONDITIONS of Section 00700 CONTRACT CLAUSES.

3.1.4 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface, ground waters, and wetlands. The Contractor shall plan his operation and perform all work necessary to minimize adverse impact or violation of the water quality standard. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities which are included in this contract. The Contractor's construction methods shall protect wetland and surface water areas from damage due to mechanical grading, erosion, sedimentation and turbid discharges. There shall be no storage or stockpiling of equipment, tools, or materials within wetlands or along the shoreline within the littoral zone unless specifically authorized.

3.1.4.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. These waste waters shall be collected and placed in retention ponds where suspended materials can be settled out or the water evaporates so that pollutants are separated from the water. Analysis shall be performed and results reviewed and approved by Corps

staff before water in retention ponds is discharged.

3.1.4.2 Cofferdam and Diversion Operations

Construction for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to limit the impact of water turbidity on the habitat for wildlife and impacts on water quality for downstream use.

3.1.4.3 Stream Crossings

Stream crossings shall be controlled during construction. Crossings shall provide movement of materials or equipment without violating water pollution control standards of the Federal, Territorial, or local government.

3.1.4.4 Monitoring of Water Areas

Monitoring of water areas affected by construction activities shall be the responsibility of the Contractor. All water areas affected by construction activities shall be monitored by the Contractor.

3.1.4.5 Turbidity

The Contractor shall conduct his operations in a manner to minimize turbidity and shall conform to all territorial water quality standards.

3.1.4.6 Oil, Fuel, and Hazardous Substance Spill Prevention and Mitigation

The Contractor shall prevent oil, fuel, or other hazardous substances from entering the air, ground, drainage, local bodies of water, or wetlands. This shall be accomplished by design and procedural controls. In the event that a spill occurs despite the design and procedural controls, the following shall occur:

(1) Immediate action shall be taken to contain and cleanup any spill of oil, fuel or other hazardous substance.

(2) Spills shall be immediately reported to the Contracting Officer.

(3) Spill contingency planning shall be strictly in accordance with the criteria of 40 CFR, Part 109.

(4) To control the spread of any potential spill, absorbent materials shall be readily available and capable of absorbing the contents of the single largest tank.

(5) To control the spread of any potential spill, the Contractor shall provide a written certification of commitment of manpower, equipment, and materials required to expeditiously cleanup and dispose of spill materials.

a. Spill Preventive Systems: System design and installation requirements have been discussed at the beginning of this Section. Temporary or portable tanks shall conform to applicable Federal, Territorial, and local codes and requirements and shall not be placed where they may be affected by storm, flooding, or washout. Diversionary structures for spills shall be put in place in advance

where practical. Both spill preventive systems and any deviations from associated requirements must be approved by the Contracting Officer prior to implementation.

b. Liabilities: The Contractor shall be liable in the amounts established in 40 CFR, Part 113 when it can be shown that oil was discharged as a result of willful negligence or willful misconduct. The penalty for failure to report the discharge of oil shall be in accordance with the provision of 33 CFR, Part 153.

3.1.5 Protection of Fish and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

In the event that a threatened or endangered species is harmed as a result of construction activities, the Contractor shall cease all work and notify the Contracting Officer. The order of contact within the Corps of Engineers shall be as follows:

Order of Contact of Corps Personnel

Title	Telephone Number Work Hours	After Hours
Corps, Inspector	On site	Lodging Location
Antilles Engineer, (CESAJ-DS-RD)	787-726-6944	To be Provided
Dr. Loren Mason, Chief, Environmental Branch, Planning Division (CESAJ-PD-E)	904-232-2202	To be Provided
Chief, Construction Branch Construction-Operations Division (CESAJ-CO-C)	904-232-1122	To be Provided
Chief, Construction-Operations Division (CESAJ-CO)	904-232-3765	To be Provided

3.1.6 Protection of Air Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the Territorial and all Federal emission and performance laws and standards, including the U.S. Environmental Protection Agency's Ambient Air Quality Standards.

3.1.6.1 Particulates

Particulates, such as dust, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and work areas within or outside the project boundaries free from particulates that would cause air pollution standards to be exceeded or that would cause a hazard or

nuisance. The Contractor shall have the necessary equipment and approved methods to control particulates as the work proceeds and before a problem develops.

3.1.6.2 Burning

All burning shall be subject to Territorial and local requirements, including requirements for burn permits and bans during certain conditions such as droughts.

3.1.6.3 Odors

Odors shall be controlled at all times for all construction activities.

3.1.7 Protection of Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise.

3.2 POSTCONSTRUCTION CLEANUP

The Contractor shall clean up any area(s) used for construction.

3.3 PRESERVATION AND RESTORATION OF LANDSCAPE AND MARINE VEGETATION DAMAGES

The Contractor shall restore all landscape features and marine vegetation damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be a part of the Environmental Protection Plan as defined in subparagraph "Environmental Protection Plan" of paragraph SUBMITTALS above. This work shall be accomplished at the Contractor's expense.

3.4 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed facilities and pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.5 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm.

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SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization; e.g., ASTM B 564 Nickel Alloy Forgings. However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 N. Capital St., NW, Suite 249
Washington, DC 20001
Ph: 800-231-3475 or 202-624-5800
Fax: 800-525-5562 or 202-624-5806
Internet: www.transportation.org

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
Internet: www.ansi.org/

Note: Documents beginning with the letter "S" can be ordered from:

Acoustical Society of America
Standards and Publications Fulfillment Center
P. O. Box 1020
Sewickley, PA 15143-9998
Ph: 412-741-1979
Fax: 412-741-0609
General e-mail: asa@aip.org
Publications 3 E-mail: asapubs@abdintl.com
Internet: http://asa.aip.org

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive

West Conshohocken, PA 19428-2959
Ph: 610-832-9585
Fax: 610-832-9555
Internet: www.astm.org

AMERICAN WATER WORKS ASSOCIATION(AWWA)
6666 West Quincy
Denver, CO 80235
Ph: 800-926-7337 or 303-794-7711
Fax: 303-794-7310
Internet: www.awwa.org

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)
P.O. Box 5690
Grandbury, TX 76049-0690
Ph: 817-326-6300
Fax: 817-326-6306
Internet: www.awpa.com

ASBESTOS CEMENT PIPE PRODUCERS ASSOCIATION (ACPPA)
PMB114-1745 Jefferson Davis Highway
Arlington, VA 22202
Ph: 703-412-1153
Fax: 703-412-1152

ASME INTERNATIONAL (ASME)
Three Park Avenue
New York, NY 10016-5990
Ph: 212-591-7722
Fax: 212-591-7674
Internet: www.asme.org

DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA)
245 Riverchase Parkway East, Suite 0
Birmingham, AL 35244
Ph: 205-402-8700
Fax: 205-402-8730
E-mail: info@dipra.org
Internet: www.dipra.org

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)
Internet: www.dot.state.fl.us

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)
127 Park St., NE
Vienna, VA 22180-4602
Ph: 703-281-6613
Fax: 703-281-6671
E-mail: info@mss-hq.com
Internet: www.mss-hq.com

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
Ph: 617-770-3000
Fax: 617-770-0700
Internet: www.nfpa.org

NSF INTERNATIONAL (NSF)
ATTN: Publications
789 North Dixboro Rd.
P.O. Box 130140
Ann Arbor, MI 48113-0140
Ph: 734-769-8010
Fax: 734-769-0109
Toll Free: 800-NSF-MARK
Internet: www.nsf.org

U.S. ARMY CORPS OF ENGINEERS (USACE)
Order CRD-C DOCUMENTS from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
Ph: 601-634-2664
Fax: 601-634-2388
Internet: www.wes.army.mil/SL/MTC/handbook/handbook.htm

Order Other Documents from:
USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
Internet: www.usace.army.mil/publications
or www.hnd.usace.army.mil/techinfo/index.htm

Order CESAJR REGULATION from:
For District Safety Manual:
Internet: www.saj.usace.army.mil/conops/cesajr385-1-1.htm
For Other documents, contact:
U.S. Army Engineer District, Jacksonville
ATTN: Information Management Office
P.O. Box 4970
Jacksonville, FL 32232-0019
Ph: 904-232-2461

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
Office of Highway Safety (HHS-31)
400 Seventh St., SW
Washington, DC 20590-0001
Ph: 202-366-0411
Fax: 202-366-2249
Internet: www.fhwa.dot.gov

Order from:
Superintendent of Documents
U. S. Government Printing Office
732 North Capitol Street, NW
Mailstop: SDE
Washington, DC 20401
Ph: 202-512-1530
Fax: 202-512-1262
Internet: www.gpo.gov

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SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Contractor's Representative (Site Superintendent or Project Manager)

Highest level manager located onsite and responsible for site construction and related activities, including quality, safety, environmental protection and production.

1.1.2 Definable Features of Work

Construction task separate and distinct from other tasks and having separate control requirements. A definable feature of work may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. An example for Concrete would be: formwork, placement, finish, curing.

1.1.3 Quality Control System Manager

A person assigned duties to manage Contractor's Quality Control (CQC) system. CQC System Manager shall have written delegated authority sufficient to stop non-conforming work.

1.1.4 Quality Control Staff

Persons assigned CQC functions and performing quality control activities. CQC Staff members may be employees of Contractor, subcontractors, testing laboratories, product representatives; however, CQC Staff are working under direction of CQC System Manager.

1.1.5 Safety Officer

Person assigned responsibility for site safety management.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 1077	(2002) Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM D 3666	(2001) Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

ASTM D 3740	(2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(2000b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE ER 1110-1-261	(1999) Quality Assurance of Laboratory Testing Procedures
COE ER 1180-1-6	(1995) Construction Quality Management

Corps of Engineers publications Internet location site is: http://www.usace.army.mil/inet/usace-docs/.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Laboratory Qualifications; G|COR

Submit laboratory qualifications as specified in subparagraph "Testing Laboratories" below.

Contractor Quality Control (CQC) Plan; G|COR

Contractor's plan describing proposed Quality Control System including organization and procedures to plan and execute quality control activities.

Letter of Authority

Letter to CQC System Manager signed by an authorized Contractor official which describes responsibilities and delegates sufficient authorities to perform functions of the CQC System Manager, including authority to stop work not in compliance with contract.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

Contractor is responsible to plan and execute quality control in accordance with COE ER 1180-1-6. Establish and maintain an effective quality control system in compliance with the Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES. Quality control system consists of plans, procedures, and organization necessary to produce a quality end product

that complies with contract. Quality control system shall cover all construction operations, both onsite and offsite activities, and be keyed to definable features of work, construction sequence and schedule. Project Manager/Superintendent is responsible for quality of work and is subject to removal by Contracting Officer for non-compliance with contract quality requirements. Project Manager/Superintendent shall be onsite at all times, except as otherwise approved by the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Upon receiving Notice of Award, prepare a CQC Plan specific to project organization, site, and features of work. Describe proposed procedures to implement requirements of Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES. After a Preconstruction Conference, Contracting Officer will schedule a Coordination Meeting (see paragraph COORDINATION MEETING below). Contractor's CQC Plan will be discussed in detail by onsite personnel from Contractor and Contracting Officer. Contracting Officer may accept an "interim CQC Plan" under a "conditional acceptance" for first 30 days of operation when CQC Plan first applicable definable features of work are acceptable. Contractor shall furnish, not later than 30 calendar days after commencement of work, an acceptable overall CQC Plan.

3.2.1 General

Within 20 calendar days after Notice of Award, submit a written CQC Plan for review and acceptance by Contracting Officer. CQC Plan submittal will be reviewed by Contracting Officer and discussed in detail at the Coordination Meeting. See paragraph COORDINATION MEETING below. Fully describe proposed procedures to implement requirements of Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES. CQC Plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. Contracting Officer may accept an "interim CQC Plan" under a "conditional acceptance" for first 30 calendar days of operation when construction quality control planning for first definable features of work are acceptable. Contractor shall furnish, not later than 30 calendar days after commencement of work, an acceptable overall CQC Plan.

3.2.1.1 CQC Plan Resubmittal

No construction will be allowed to start until an "interim CQC Plan" is "conditionally accepted". When an "interim CQC Plan" is "conditionally accepted", revise and resubmit overall project CQC Plan for Contracting Officer's acceptance. When Contractor is working under an "interim CQC Plan", until Contractor submits an acceptable final CQC Plan, Contracting Officer will retain funds from progress payments in accordance with Clause PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES. When no acceptable CQC Plan is resubmitted within a reasonable time, as determined by Contracting Officer, Contracting Officer may order Contractor to stop work until such time as a CQC Plan is accepted. Such a directed stop work order shall not be considered a suspension of work under Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES. No pay or construction period adjustments will be allowed as a result of a directed stop work order based on Contractor inability to plan quality control in a manner acceptable to Contracting Officer.

3.2.1.2 Failure

Failure to comply with above requirements within time prescribed will be considered a condition endangering contract performance and may be

considered grounds for termination of contract in accordance with Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES.

3.2.2 Content of CQC Plan

CQC Plan shall cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. Describe Quality Control Organization: Include an Organization Chart with lines of authority and reporting. CQC Staff shall include a CQC System Manager who shall perform his duties in tandem with those of Project Manager/Site Superintendent. For CQC matters, CQC System Manager shall directly report to Contractor other than Project Manager/Site Superintendent.

b. Definable Features of Work: Although each section of specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. A definable feature of work list will be agreed upon during the Coordination Meeting.

c. CQC Staff Qualifications: Names, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function. If included, see paragraph LIMITATIONS ON SUBSTITUTIONS FOR CERTAIN POSITIONS AND/OR SUBCONTRACTORS of Section 00800 SPECIAL REQUIREMENTS.

d. Letter of Authority: Copy of Letter of Authority to CQC System Manager. CQC System Manager shall issue letters of direction to other quality control staff describing duties, authorities, and responsibilities.

e. Submittal Control: Procedures for scheduling, reviewing, certifying, and managing submittals, including submittal items from subcontractors, offsite fabricators, suppliers, and purchasing agents. Procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

f. Testing: Control, verification, and acceptance testing procedures. Provide a list of specific tests. Provide information including test type or testing standard, specification paragraph requiring test, feature of work being tested, test frequency, and identify who (i.e., Contractor, subcontractor, Testing Laboratory) is responsible for each test. (Laboratory facilities must be approved by the Contracting Officer.)

g. Three-Phase Control: Procedures to implement three-phase quality control system. Procedures to plan and document preparatory, initial, and follow-up control phases.

h. Deficiency Tracking: Procedures for tracking [construction] [design and construction] deficiencies from identification through acceptable corrective action. Establish procedures that verify deficiencies have been corrected and document correction.

i. Reports and Forms: Reporting procedures, including proposed reporting formats and sample forms.

3.2.3 Acceptance of Plan

"Conditional acceptance" of a Contractor's "interim CQC Plan" is required prior to start of construction. Within a specified period after commencement of work, Contractor's overall CQC Plan requires Contracting Officer's acceptance or work is subject to a stop work directive. Contracting Officer's acceptance is conditional and is contingent on satisfactory performance during the construction. Contracting Officer reserves the right to require Contractor to make changes in his CQC Plan and construction operations, including removal of personnel, in order to obtain required contract quality.

3.2.4 Notification of Changes

Notify Contracting Officer in writing a minimum of 7 calendar days prior to new proposed personnel or CQC Plan procedure changes. Proposed changes are subject to Contracting Officer acceptance.

3.3 COORDINATION MEETING

Refer to Section 01310 ADMINISTRATIVE PROCEDURES. Contracting Officer will schedule a Coordination Meeting where Contractor, CQC Staff, and Contracting Officer will develop a mutual understanding of Contractor's CQC Plan with Contracting Officer's Quality Assurance. CQC Plan will be discussed in detail, including forms for recording CQC operations, control activities, testing, administration of the system for both onsite and offsite work. Contractor's quality control both onsite and offsite, safety and environmental protection and supervision by Quality Control personnel will be discussed. Meeting minutes will be prepared by Contracting Officer and signed by both parties. Minutes will become part of contract files. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in CQC system or procedures requiring corrective action.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

CQC Organization shall have a CQC System Manager and sufficient number of additional qualified personnel to ensure contract quality control for workmanship and materials, including safety and environmental protection compliance. Designate a Safety Officer who shall serve as a member of CQC Staff. Personnel identified in other contract sections as requiring specialized skills to assure work is performed properly shall also be included as part of CQC Organization. Contractor's CQC Staff shall be present onsite during work and shall have authority and responsibility to ensure contract compliance. CQC Staff shall be subject to acceptance by Contracting Officer. Provide office space, filing systems and other resources as necessary to maintain an effective and functional CQC Organization. Complete records of letters, transmitted submittal items, shop drawings, progress schedules, changes to contract drawings, test results, and other project documentation shall be given promptly furnished to CQC Organization by Contractor. CQC Organization shall be responsible to maintain these documents and records onsite, unless otherwise approved by Contracting Officer.

3.4.2 CQC System Manager

Appoint a CQC System Manager, an individual employed by Contractor, within

onsite organization who shall be responsible for CQC management. CQC System Manager shall have authority to act in all CQC matters for Contractor. CQC System Manager shall be an experienced construction person with a minimum of 5 years in related work. In the CQC Plan identify an alternate for CQC System Manager to manage CQC during CQC System Manager's absences. Designated alternate shall be a construction person with a minimum three years experience on similar projects and shall meet CQM-C Training requirement below. CQC System Manager or designated alternate shall be onsite during construction. CQC System Manager shall be assigned as CQC System Manager but may have duties as Site Superintendent or Safety Officer in addition to quality control.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in contract, Contractor shall provide as part of CQC Organization specialized personnel to assist CQC System Manager. CQC Staff shall be under direction of CQC System Manager to perform CQC activities. CQC Staff must be of sufficient size to ensure adequate CQC coverage of work phases, work shifts, and work crews involved in construction. Personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned CQC responsibilities. CQC personnel shall be allowed sufficient time to carry out CQC responsibilities. CQC Plan shall describe duties and responsibilities of CQC Staff positions.

3.4.4 CQM-C Training Requirement

CQC System Manager and alternate shall have completed U.S. Army Corps of Engineers (COE) course "Construction Quality Management For Contractors" within the previous 5 years. A completion certificate from any Corps District or Naval Facilities Command is acceptable. In event proposed CQC System Manager has not completed CQM-C training, Contractor shall take this course within 60 days after Notice of Award. CQM-C is periodically offered by Jacksonville District. Information regarding course can be obtained from the following web site: http://www.saj.usace.army.mil/conops/construction or by contacting Chief, Quality Assurance Section at 904-232-1128.

3.4.5 Organizational Changes

When CQC Staff changes are needed, revise CQC Organization Chart in CQC Plan to reflect changes and submit changes to Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals shall be prepared and transmitted as specified in Section 01330 SUBMITTAL PROCEDURES. CQC Organization shall certify submittals comply with contract requirements. Items delivered to Contracting Officer shall be controlled, packaged, transported and stored in a manner to prevent damage or loss. Deliverables including quality control documentation, invoices, correspondence shall be controlled to prevent loss or delays.

3.6 CONTROL

Contractor Quality Control is the means by which Contractor ensures construction, including that of subcontractors and suppliers, complies with contract. Conduct Preparatory Phase and Initial Phase meetings for each definable feature of work. (Refer to Section 01310 ADMINISTRATIVE

PROCEDURES.) At least three phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

Preparatory Phase shall be performed prior to beginning work on each definable feature of work. Notify Contracting Officer at least 24 hours in advance of beginning preparatory control phase. Ensure proposed plans, activity hazard analyses, permits and submittals, are approved and copies are onsite. Conduct a Preparatory Phase meeting headed by CQC System Manager and attended by Superintendent, other CQC personnel, and foremen responsible for supervising workmanship for definable feature of work. Document Preparatory Phase actions using "Preparatory Phase Checklist" and meeting minutes prepared by CQC System Manager. Sample Preparatory Phase Checklist is on any of the web sites indicated at the end of this Section. Attach checklist and minutes to Contractor's Quality Control (CQC) Report (sample CQC form is on any of the web sites indicated at the end of this Section). Preparatory Phase actions include:

a. Review each paragraph of specifications, reference codes, and standards. Review copies of referenced codes and standards applicable to work to be accomplished. Make copies available for use by Contracting Officer personnel and Contractor CQC Staff at Preparatory Phase meeting. Maintain copies available until final acceptance of work.

b. Review of contract drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review provisions that have been made to provide required control inspection and testing.

e. Examine work area to assure required preliminary work is complete and in compliance with contract.

f. Inspect materials, equipment, and sample work to assure that they are on hand, conform to approved or information only submittal items, and are properly stored.

g. Review of activity hazard analysis to assure safety requirements are met.

h. Discuss procedures for controlling quality of the work including preventing repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. Check to ensure that portion of plan for work to be performed has been accepted by Contracting Officer.

j. Discuss initial control phase.

3.6.2 Initial Phase

Notify Contracting Officer at least 24 hours in advance of beginning the Initial Phase. Initial Phase is workmanship oriented and shall be accomplished at the beginning of physical work on a definable feature of

work. CQC Staff, testing personnel, foremen, workers shall attend an "Initial Phase Meeting" conducted by CQC System Manager. Exact location of Initial Phase actions shall be indicated for future reference and comparison with follow-up phases. Document "Initial Phase Meeting" using an Initial Phase Checklist and minutes prepared by CQC System Manager. Sample Initial Phase Checklist is on any of the web sites indicated at the end of this Section. Attach checklist and minutes to Contractor's Quality Control (CQC) Report (sample CQC form is on any of the web sites indicated at the end of this Section). Initial Phase actions include:

a. Check preliminary work to ensure that it complies with contract. Review minutes of preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable contract workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review activity analysis with each worker.

f. Initial Phase shall be repeated for new crews working onsite, and when contract workmanship quality standards are not being met.

3.6.3 Follow-up Phase

Follow-up Phase consists of daily checks performed to assure quality control activities, including testing, to provide continued compliance with contract requirements, until feature of work is complete. Record inspection and check results in CQC documentation. Complete follow-up checks and inspections and correct deficiencies prior to starting features of work which may be affected by deficient work. No non-conforming work shall be concealed to build upon.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on same definable features of work when: quality of on-going work is unacceptable; there are changes in applicable CQC Staff, production supervision or work crews; work on a definable feature is resumed after a period of inactivity; or, when other problems develop. Contracting Officer may direct additional phase meetings as needed to assure contract compliance.

3.7 TESTS

3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate and provide an end product conforming to contract. When requested, Contractor shall furnish Contracting Officer duplicate samples of test specimens for possible testing by Contracting Officer. Testing includes operation and acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site.

The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

Contractor's proposed material testing labs require Contracting Officer approval. Contractor shall provide:

Material Testing Laboratories validated by Corps of Engineers Materials Testing Center in accordance with COE ER 1110-1-261. Labs used for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM C 1077, ASTM D 3666, ASTM D 3740, and ASTM E 329.

Submit laboratory qualifications including:

a. Laboratory name, address, point of contact and phone number.
b. Experience and background of technical personnel in resume format.
c. Provide most recent external inspection report.

3.7.2.1 Laboratory Validations

a. Materials Testing Labs: A list of currently Corps validated material laboratories is available at the following Internet website: http://www.wes.army.mil/SL/MTC/ValStatesTbl.htm. If Contractor proposes a material testing lab not currently validated by Corps of Engineers, Contractor shall pay costs for Corps lab inspection and validation. Cost will be deducted from contract amount due Contractor. Inspection and validation for material testing labs required onsite inspection and audit of quality control records and costs $4,500 per lab in Puerto Rico. Validation process requires labs to describe deficiency correction and respond within 30 days after receiving inspection report. Reinspection costs will be deducted from contract.

b. Onsite Laboratory: Onsite laboratory shall meet inspection

validation requirements outlined above. Contracting Officer reserves the right to use Contractor's onsite testing lab and equipment to make quality assurance tests, check Contractor's testing procedures, techniques, and test results at no additional cost to the Contracting Officer.

3.7.3 Samples for Contracting Officer Testing

Costs incidental to obtaining and transporting samples and materials for Contracting Officer testing are Contractor's responsibility. Samples of materials for test verification and acceptance testing by Contracting Officer shall be delivered to lab designated by Contracting Officer. Contractor shall coordinate obtaining specific samples and delivery location with Contracting Officer. Routine soil, concrete, asphalt testing is usually done within Puerto Rico. Special construction products or components are usually sent to a Corps of Engineers lab located in Vicksburg, Mississippi or Champaign, Illinois. Jacksonville District chemical analysis, rock petrographic, metallurgy samples are usually sent to Atlanta, Georgia or Jacksonville, Florida for testing.

3.8 COMPLETION INSPECTIONS

3.8.1 Punch-Out Inspection

Near end of project, or phase of work established for beneficial occupancy, Contractor shall conduct a "Punch-Out Inspection" jointly inspecting completed work with subcontractors. Contractors shall develop a "punch list" of work which does not conform to contract. Provide punch list to Contracting Officer. Punch list shall include estimated date by which deficiencies will be corrected. Contractor shall make a second inspection to ensure deficiencies have been corrected. Once this is accomplished, notify Contracting Officer that work is ready for Contracting Officer Pre-Final Inspection.

3.8.2 Pre-Final Inspection

Contracting Officer will jointly perform a "Pre-Final Inspection" with Contractor to verify work is complete and ready for acceptance or occupancy. New punch list items may be developed as a result of Pre-Final Inspection. Contractor shall ensure items on this punch list have been corrected before notifying Contracting Officer to schedule a Final Inspection with Owner. Items on a Pre-Final punch list shall be corrected in a timely manner. Complete inspections and correct any deficiencies within construction period for completion of work or for a particular phase of work when contract has separate completion dates.

3.8.3 Final Acceptance Inspection

Contractor, Project Manager/Superintendent, CQC System Manager shall attend Final Inspection. Contracting Officer, and additional persons including, but not limited to, those from Sponsor, User, Customer, or Owner, and other agencies may also attend. Final Inspection will be scheduled by Contracting Officer based upon results of the Pre-Final Inspection and Contractor's notification. Notify Contracting Officer at least 14 days prior to Final Inspection. Include a statement assuring deficiencies will be corrected and work will be acceptable by date proposed for Final Inspection. Contractor's failure to correct deficiencies and have work complete for Final Inspection will be cause for Contracting Officer to deduct from Contractor for Contracting Officer's additional reinspection

cost from contract payment in accordance with Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES.

3.9 DOCUMENTATION

Contractor shall maintain records for each construction day documenting quality control activities that have been performed. Records shall include testing record, work of subcontractors and suppliers. A CQC report with supporting attachments shall be prepared daily on an acceptable form that includes the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number. (Refer to Section 01320 PROJECT SCHEDULE.)

d. Testing and control activities performed with results and references to specifications or drawings requirements. Identify control phase (Preparatory, Initial, Follow-up). List deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications or drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given or received and conflicts in plans or specifications.

j. Contractor's verification statement.

Describe trades working on the project; number of personnel working; weather conditions encountered; and delays encountered. Records shall cover both conforming and deficient work and shall include a statement that equipment and materials incorporated into work and workmanship comply with contract. Original and one copy of these records shall be furnished to Contracting Officer daily within 24 hours after the date covered by report. No CQC daily report is required for days on which no work is performed; however, next report shall document weather during those days and note possible effects on restarting work. Submit a report for a minimum every 7 days of no work and on the last day of a no work period. All contract calendar days shall be accounted for. CQC System Manager or Alternate shall sign and date reports. CQC System Manager's reports shall include copies of test reports, phase checklists, meeting minutes, inspector notes, and copies of reports prepared by other quality control personnel.

3.10 NOTIFICATION OF NONCOMPLIANCE

Contracting Officer will notify Contractor of noncompliance with contract requirements. Take corrective action immediately after receipt of noncompliance notification. Contractor personnel notified at work site is sufficient for the purpose of Contractor notification. If Contractor fails to comply promptly, Contracting Officer may issue an order stopping all or part of work until satisfactory corrective action has been taken. Such stop orders shall not be made a basis of a Contractor's claim for time extension or other damages.

3.11 SAMPLE FORMS

Forms are available for Contractor use at the following web sites:
http://www.saj.usace.army.mil/conops/construction,
http://www.usace.army.mil/inet/usace-docs/, and
http://www.usace.army.mil/cadd/end/construction_forms_and_details.htm.

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SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 SUMMARY

In addition to Construction Facilities this Section covers:

Temporary Utilities
Construction Aids
Vehicular Access and Parking
Project Identification

See Section 01355 ENVIRONMENTAL PROTECTION for requirements including silt control, trailer placement, fueling restrictions, dust control, solid waste, and clean-up. Upon completion of project, clean-up and restore area in accordance with Clause CLEANING UP of Section 00700 CONTRACT CLAUSES.

a. Construction Facilities include, but are not limited to, the following:

(1) Contracting Officer's Field Office
(2) Contractor Offices
(3) Information Bulletin Board
(4) Material and Equipment Storage Area
(5) Fueling Area
(6) Secured Storage Area
(7) Employee Parking Area
(8) Debris Container (dumpster)
(9) Construction Signage to include Project Sign; Safety Sign; and, Construction Warning Signs

b. Temporary Utilities include, but are not limited to, the following:

(1) Water
(2) Electric
(3) Sewage
(4) Communications
(5) Lighting

1.2 REFERENCES

The publications listed below form a part of this specification to extent referenced. The publications are referred to in text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C2 (1997) National Electrical Safety Code

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)

FDOT	(2000) Standard Specifications for Road and Bridge Construction

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1999) National Electrical Code

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CESAJR 58-1-1	(1993) Motor Transportation - Administrative Vehicle Management - General
COE CESAJR 385-1-1	(1998) Safety and Occupational Health Program
COE EM 385-1-1	(2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Within 30 days following date of receipt of Notice to Proceed and prior to mobilization to site submit following in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Mobilization/Demobilization Plan

Plan shall include, but not be limited to, the following:

a. Mobilization Requirements:

(1) Methods, equipment and materials
(2) Connection of utilities
(3) Placement of site facilities and temporary controls
(4) Construction of facilities

b. Demobilization Requirements (methods, equipment and materials required to clean-up and restore site at project conclusion):

(1) Collection, recycle and disposal of solid waste
(2) Contract-generated material
(3) Utility disconnection
(4) Removal of Contractor facilities
(5) Repair and restoration of site (i.e., fences, roads, or permanent facilities)

Security Plan

Prepare a Security Plan for Contracting Officer describing site security as follows:

a. Day and night security
b. Weekend and holiday security

c. General security duties

Manufacturer's Literature for Equipped Boat, Trailer, and Hand-Held Radios

Within 20 calendar days after date of Notice of Award, the Contractor shall submit manufacturer's literature of all items to be furnished for exclusive use of Government personnel.

SD-02 Shop Drawings

Contractor's Temporary Facilities

General layout sketch of temporary site facilities shall include, but not be limited to, the following:

a. Trailer locations
b. Parking areas
c. Material storage
d. Equipment lay down area
e. Areas for gravel
f. Fuel areas
g. Supplemental or other staging area
h. Temporary well, water supply
i. Septic field or holding tanks, port-a-lets
j. Contaminated water handling
k. Concrete cleaning area and methods of disposal
l. Fences -- location and dimensions, entrance and exit points, and details of installation
m. Explosives storage

Contracting Officer's Field Office Trailer

Supplier or Manufacturer scale drawings of trailer floor plans for Contracting Officer's Field Office. Plans should show a minimum of two offices, toilet, and conference area.

Temporary Electric Drawings

Electricity supply and lighting - from transformer source sketch layout locations, fixtures, and materials, to include outdoor lighting as described in subparagraph "Electric Power" below.

Construction Drawings; G|COR

Contractor shall prepare and furnish six (6) copies each of Construction Drawings for approval at least 20 calendar days before work on the applicable feature is commenced. Prepare construction drawings in accordance with the paragraph SUBMITTAL PROCEDURES of Section 01330 SUBMITTAL PROCEDURES, and consisting of the following features:

a. Plant Layout. The Contractor shall submit drawings for the structure area to show his plant layout, storage/area yards, shops, offices, concrete batching and mixing plant location, access and haul roads, and other pertinent features. The drawings shall also show the general features of the aggregate processing plant; aggregate transporting, storage and reclaiming facilities; aggregate rinsing and dewatering plant, if required; coarse

aggregate rescreening plant, if required; concrete conveying and placing plant; and, when precooling of concrete is required, the cooling plant. The drawings shall appropriately show the capacity of each major feature of the plant including the rated capacity of the aggregate production plant in tons per hour of fine and coarse aggregates; rated capacity of the aggregate transporting, storage and reclaiming facilities; volume of aggregate storage; capacity of cement and pozzolan storage; rated capacity of the concrete batching and mixing plant in cubic yards per hour; rated capacity of the concrete transporting and placing plant in cubic yards per hour; and, when used, rated capacity of plant for precooling of concrete.

b. Excavation Plan. The Contractor shall submit drawings showing the structure excavation area with details of his plan for excavation to include slopes, lines, grades, and shoring required for the structure excavation.

1.4 EXISTING UTILITIES

Contractor is responsible for electricity from transformer. There is no potable water, sanitary sewer, or natural gas available at the site. Contractor is responsible for furnishing at the project site.

1.4.1 Water

In addition to the above, the Contractor shall provide and maintain at his own expense an adequate supply of water for his use for construction, and to install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. The Contractor shall also provide and maintain his own temporary toilet and washing facilities. Toilet and washing facilities shall be installed and maintained in a location approved by the Contracting Officer. Refer to paragraph AVAILABILITY AND USE OF UTILITY SERVICES below.

1.4.2 Electricity

In addition to the above, all electric current required by the Contractor shall be furnished at his own expense. All temporary lines will be furnished, installed, connected, and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer and shall be removed by the Contractor in like manner at his expense prior to completion of the construction. Refer to paragraph AVAILABILITY AND USE OF UTILITY SERVICES below.

1.5 TEMPORARY SERVICES

Furnish following services for Contracting Officer's Field Office:

a. Janitorial service
b. Lawn service
c. Waste removal
d. Office Services -- Photo-static copy machine

1.6 RESIDENT MANAGEMENT SYSTEM (RMS)

Contractor shall use Government-furnished Construction Contractor module of RMS, referred to as Quality Control System (QCS), software for construction information management (CIM). QCS will be the latest version of "QCS"

which is personal computer based. Additional information will be provided to the Contractor at the Preconstruction Conference. Refer to Section 01312 QUALITY CONTROL SYSTEM (QCS).

PART 2 PRODUCTS

2.1 CONTRACTING OFFICER'S FIELD OFFICE TRAILER

Trailer in first class condition, not greater than two years old, with a minimum total space of 600 square feet.

2.2 CONSTRUCTION PROJECT SIGNS

Refer to paragraph BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN below and the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

2.2.1 Haul Road Traffic and Construction Warning Signs

1/2 inch HDO plywood, or aluminum sheet, conforming to FDOT Section 700 Uniform Traffic Manual Standard Signs, non-standard signage high visibility orange with black lettering. Orange fabric mesh acceptable for temporary survey crew use.

2.3 STORAGE CONTAINERS

Welded steel construction, locking, shipping containers or equal.

2.4 QCS HARDWARE AND SOFTWARE REQUIREMENTS

Refer to Section 01312 QUALITY CONTROL SYSTEM (QCS).

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

3.1.1 Identification of Employees

Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

3.1.2 Employee Parking

a. Park employee's vehicles in areas designated by Contractor, away from construction traffic, within reasonable walking distance of site. Maintain area free of ruts, mud holes and puddles. Place gravel where required by deteriorated conditions.

b. Provide Contracting Officer six gravel parking spaces at Contracting Officer's Field Office. Place parking signs reserved for use of Contracting Officer and visitors. Contractor shall maintain these spaces clear of other vehicles.

c. Contractor should protect unattended equipment as it may be subject to vandalism.

d. Storage trailers and storage area with Government material should be locking type with lighting.

3.1.3 Onsite Information

Keep copy of contract drawings, specifications, and other contract documents at Contractor's Office onsite, available for use at all times.

3.1.4 Janitorial Services

a. Daily -- Sweep; empty wastebaskets; service toilets
b. Weekly -- Mop floors; sanitize toilet seats
c. Monthly -- Wash floors, windows (inside and out)
d. Cut grass as needed to keep below 3 inches high

3.2 AVAILABILITY AND USE OF UTILITY SERVICES

Install temporary facilities and utilities in accordance with ANSI C2, COE CESAJR 385-1-1, COE EM 385-1-1, NFPA 70. Obtain necessary construction, building, zoning, or soil erosion and sediment control approvals required by local authorities and utility companies. Equip trailer(s) with wind tie downs in accordance with local wind and building code requirements.

3.2.1 Lighting

Electric light, non-glare type luminaries to provide a minimum illumination, level of 30-foot candles at desk height level. Comply with temporary lighting, wiring and Ground Fault Circuit Interrupter (GFCI) requirements found in COE EM 385-1-1.

3.2.2 Heating and Cooling

Adequate equipment to maintain internal ambient air temperature of 75 degrees F in 105 degrees F and 70 degrees F in 30 degrees F. Equip trailer(s) with smoke alarms. If bottled gas is used to heat, equip trailer(s) with carbon monoxide alarms.

3.2.3 Water

Non-potable well water may be used to flush toilets, dish and hand washing. Provide bulk potable water storage tanks or provide bottled water for drinking.

3.2.4 Fire Extinguisher

Refer to COE EM 385-1-1. Non-toxic, dry chemical, fire extinguisher meeting Underwriters Laboratories, Inc., approval for Class A, Class B, and Class C fires with a minimum rating of 2A; 10B; and 10C.

3.2.5 Utility Lines

Install, connect and modify temporary lines as coordinated with owning utility. Conform requirements in accordance with ANSI C2 and NFPA 70 for Temporary Electric Lines. Remove temporary line at completion of project.

3.2.6 Electric Power

Provide Contracting Officer's Field Office sufficient continuous power and electric supply to assure operation of systems, including computer, indoor and outdoor lighting, and HVAC. Provide electrical service and transformers sufficient to operate heating/air conditioning units. Electrical power shall be purchased directly by Contractor.

3.3 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

3.3.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

3.3.2 Project and Safety Signs

The requirements for the signs, their content, and location shall be as indicated on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. The signs shall be erected within 15 days after receipt of the Notice to Proceed. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. Upon completion of the project, the signs shall be removed from the site.

3.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

3.4.1 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

3.4.2 Temporary Highway 73 Bypass

The contractor shall construct a temporary bypass route for local traffic use on Highway 73. The bypass shall allow for two-way traffic flow with a maximum speed limit of 15 MPH. The contractor must have the bypass constructed and open to traffic prior to closing of Highway 73 for channel

construction (this contract) and bridge construction (by others). The contractor shall construct a suitable bypass within the available right-of-way including posting of the 15 MPH speed limit. The bypass will be considered a "low-water" crossing with provision for an 18-inch diameter CMP to pass small flows. Signs and barriers shall be posted in accordance with the requirements of Section 01550 TRAFFIC CONTROL. Also, the Contractor shall submit a plan, which shows the proposed layout of the bypass, with the Traffic Control Plan indicated in Section 01550 TRAFFIC CONTROL.

In the event of larger storm events, which make the roadway impassable, the contractor shall be responsible for repairing the by-pass road within 48-hours after a storm event and water flows have subsided. The contractor shall insure the bypass road is at or slightly above the levee grade where it intersects to ensure gut flows remain within the existing channel.

The bypass will be left in place upon completion and will be removed by others.

3.5 HAUL ROADS

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

Whenever practical, one-way haul roads shall be used on this contract. Haul roads built and maintained for this work shall comply with the following:

a. One-way haul roads for off-the-road equipment; e.g., belly dumps, scrapers, and off-the-road trucks shall have a minimum usable width of 25 ft. One-way haul roads for over-the-road haulage equipment only (e.g., dump trucks, etc.) may be reduced to a usable width of 15 feet. When the Contracting Officer determines that it is impractical to obtain the required width for one-way haul roads (e.g., a road on top of a levee), a usable width of not less than 10 feet may be approved by the Contracting Officer, provided a positive means of traffic control is implemented. Such positive means shall be signs, signals, and/or signalman and an effective means of speed control.

b. Two-way haul roads for off-the-road haulage equipment shall have a usable width of 60 feet. Two-way haul roads for over-the-road haulage equipment only may be reduced to a usable width of 30 feet.

c. Haul roads shall be upgraded and otherwise maintained to keep the surface free from potholes, ruts, and similar conditions that could result in unsafe operation.

d. Grades and curves shall allow a minimum sight distance of 200

feet for one-way roads and 300 feet for two-way roads. Sight distance is defined as the centerline distance an equipment operator (4.5 feet above the road surface) can see an object 4.5 feet above the road surface. When conditions make it impractical to obtain the required sight distance (e.g., ramps over levees), a positive means of traffic control, indicated above, shall be implemented.

e. Dust abatement shall permit observation of objects on the roadway at a minimum distance of 300 feet.

f. Haul roads shall have the edges of the usable portion marked with posts at intervals of 50 feet on curves and 200 feet maximum elsewhere. Such markers shall extend 6 feet above the road surface, and for nighttime haulage, be provided with reflectors in both directions.

3.6 CONTRACTOR'S TEMPORARY FACILITIES

3.6.1 Contractor Field Office

Provide on-site field office of sufficient size and staff capability to manage project activities. Provide communications and computer capabilities to manage the work, including implementing QCS (refer to Section 01312 QUALITY CONTROL SYSTEM (QCS)), facsimile, electronic mail, reproduction, to schedule and cost tracking. Contractor's field office should include a conference area with table and chairs to accommodate a minimum of 8 people. Provide handicap access with a 1 on 12 ramp and gravel parking spot marked with handicap parking sign.

3.6.2 Appearance of Trailer(s)

Trailer(s), used for both office and material storage purposes, shall be clean, neat exterior appearance and in good repair. Trailer(s) requiring exterior painting or maintenance will not be allowed on site until determined satisfactory by Contracting Officer.

3.6.3 Storage Area

Provide temporary six-foot high chain link fence for storage containers, trailers or sheds containing Government property. Fence posts may be driven. Ground chain link fence against lightning. Store Contracting Officer's property, owned materials and equipment within fenced storage area. Store small size Government property, equipment, tools, materials in locked steel containers. No Government property and materials shall be stockpiled outside fence in preparation for next day's work. Park mobile equipment, tractors, wheeled lifting equipment, cranes, trucks, and like equipment, within fenced areas on weekends.

3.6.3.1 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

3.6.4 Waste Storage

Provide dumpsters or suitable debris containers. Prevent wind blown trash; cover as needed. Dispose of offsite when needed. Refer to Section 01355 ENVIRONMENTAL PROTECTION.

3.6.5 Fuel Storage and Fueling Operations

Refer to Section 01355 ENVIRONMENTAL PROTECTION. Provide light when fueling at night.

3.7 SECURITY PLAN

Provide site security person at all times when there are no on-site activities. Maintain 24-hour security during weekends and holidays. Site security shall include, but not be limited, to:

a. Limit vehicular access to authorized vehicles and personnel only.

b. Limit public access to travel along access road only. Access road shall be kept closed at all times except for passage of authorized personnel and vehicles.

c. Maintain a list of authorized personnel and subcontractors available at site offices.

d. Maintain a sign-in log documenting visitors, deliveries, and security incidents. Include date, name, address, company, time in and time out for each employee and visitor.

e. Check fenced areas, equipment, trailers on a daily basis. If damage is observed or vandalism is found report to Contracting Officer.

3.7.1 Visitors

No visitors will be allowed on site without knowledge of Contractor and permission of Contracting Officer. Direct visitors to report upon arrival to Contractor's Field Office for site safety and accident prevention briefing. Provide visitors appropriate protective equipment (i.e., ear plugs, safety glasses, etc.).

3.8 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

3.9 CONSTRUCTION FENCING AND DANGER SIGNS

a. The Contractor shall furnish, install, and maintain barbed wire fencing along the entire right-of-way lines. The fence shall be

installed prior to construction. The fence shall contain a minimum of four strands of barbed wire and be at least 4 feet in height. Access gates (size and quantity determined by the Contractor) shall be provided to permit movement of machinery and equipment. The fence shall be grounded to reduce possibilities of electrical shock. The fence shall be maintained to restrain the public until completion of construction.

b. The Contractor shall furnish 28 danger signs, as indicated on the sketch on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below, and post them on the fence at locations directed by the Contracting Officer. The signs shall be of the format, style, and minimum size indicated, shall be neatly and sturdily constructed, and shall be securely erected in a workmanlike manner to support the sign properly for the life of the contract. For work in Puerto Rico and the Virgin Islands, Contractor is required to post both the English and Spanish version of the sign. The signs shall be posted together.

c. Upon completion of construction and when so directed by the Contracting Officer, the fencing and signs shall be removed by the Contractor during the final cleanup process. The fencing and signs shall be disposed of by the Contractor in a manner satisfactory to the Contracting Officer.

3.10 CONTRACTING OFFICER'S FIELD OFFICE

Supply and maintain lockable field office separate from Contractor for use by Contracting Officer.

3.10.1 Office Trailer

a. An all metal exterior, sides and roof; double-insulated walls, floor, and roof; electric baseboard heat; self-contained, built-in air conditioning; and 110 volt wall outlets.

b. Security guard screens, screens, and blinds for all windows.

c. Toilet facility -- A separately enclosed room properly ventilated and complying with applicable sanitary codes including hot and cold running water and flush type toilet.

d. Installed during site mobilization.

3.10.2 Office Equipment

Provide following furnishings:

2 - Office desks with five lockable drawers (60 inches by 30 inches, laminated top) and swivel chair for each (desks should be designed for use with PCs)
1 - Conference Table with eight chairs
1 - First aid kit, wall mounted
Intercom connection to Contractor's secretarial station
1 - Fire resistant, five drawer, legal size lockable filing cabinet
2 - Five drawer, letter size lockable filing cabinets
Telephone answering machine with remote answering capability and voice time/day stamp
1 - Table to support FAX and printer
2 shelf sets - Four shelves high by 12 inches deep by 3 feet long

(attachable to wall)
2 - 3' x 6' Cork Bulletin Boards
3 - 3' x 6' Dry Erase Boards
3 - Waste baskets
1 - Plan Table installed in one office (may be built in) with a minimum working surface of 4 feet by 6 feet, and draftsman stool
1 - Vertical filing plan rack sufficient for contract drawings
1 - Seven cubic foot refrigerator with freezer
1 - Microwave oven
1 - Water cooler/dispenser with minimum 3 gallon capacity
Photo-static copy machine
3 - Telephone lines, one each for FAX, data and voice

3.11 CONTRACTOR-FURNISHED VEHICLE(S) FOR GOVERNMENT PERSONNEL

3.11.1 General

The Contractor shall provide the following vehicle, in good operating condition and with no more than 20,000 recorded miles, for the exclusive use of Government personnel, for official use only in accordance with Title 31, U.S.C. 638A(c)(2), as implemented by COE CESAJR 58-1-1. The vehicle shall be manufactured in the United States and accessories shall be products of the manufacturer.

No. of Vehicles	Description
1	Mid sized or greater, lighted colored, 4-door Sport Utility Vehicle (SUV) with 4-wheel drive and air conditioning.

3.11.2 Delivery Schedule

The vehicle shall be delivered to the Project Office within 30 calendar days after receipt of Notice to Proceed.

3.11.3 License and Insurance

The Contractor shall be responsible for vehicle license and inspections required by the U.S. Virgin Islands. He shall also provide public liability and property damage insurance.

3.11.4 Maintenance

The Contractor shall furnish all fuel, oil, tires, and all parts, materials, and supplies required for the operation and maintenance of the vehicle. The Contractor shall perform all routine maintenance on the vehicle at frequencies not to exceed the manufacturer's recommended maintenance schedule. The Contractor shall schedule and provide the labor required to maintain the vehicle and shall have each vehicle washed and vacuumed once a week. The utility vehicle is expected to be driven a minimum of 15,000 miles per year.

3.11.5 Final Disposition

The vehicle furnished under this contract will remain the property of the Contractor and, upon completion of the contract, the vehicle will be returned to the Contractor.

3.12 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

3.13 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored. Refer to Section 01355 ENVIRONMENTAL PROTECTION for solid waste and post construction clean-up.

3.14 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

3.15 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm.

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SECTION 01525

GENERAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

Section covers general site safety, accident prevention, accident reporting and Jacksonville District specific safety procedures, "Safety Pays" accident prevention incentive and recognition program.

1.1.1 Related Section

Refer to Section 01500 TEMPORARY CONSTRUCTION FACILITIES for safety signs and required bulletin board posters.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASME INTERNATIONAL (ASME)

ASME B30.5	(1994) Mobile Cranes
ASME B30.22	(1993) Articulating Boom Cranes

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(1995) Portable Fire Extinguishers
NFPA 70	(1999) National Electrical Code
NFPA 241	(1996) Safeguarding Construction, Alteration, and Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CESAJP 385-1-2	(1998) Safety Pays
COE CESAJR 385-1-1	(1998) Safety and Occupational Health Program
COE EM 385-1-1	(2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD, PART 6	(2000) Manual on Uniform Traffic Control Devices - Work Zones

1.3 SAFETY MANUALS

COE EM 385-1-1, COE CESAJR 385-1-1, COE CESAJP 385-1-2 are available at http://www.saj.usace.army.mil/conops/index.html. One copy of each will be provided to Contractor at a Preconstruction Conference (refer to Section 01310 ADMINISTRATIVE PROCEDURES. COE EM 385-1-1 is also at above web site in a Spanish version. Additional paper copies of COE EM 385-1-1 may be purchased for $30.00 using a check or money order as follows:

U.S. Government Printing Office (GPO)
Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
(GPO Stock Number for the manual is 0008-022-00-310-0)

or

order by credit card by calling 202-512-1800 (Master Card or Visa only)

Additional copies of COE CESAJR 385-1-1 and COE CESAJP 385-1-2 will be provided upon written request.

1.4 DEFINITIONS

Use definitions found in COE EM 385-1-1 and COE CESAJR 385-1-1 in submitted work plans.

Safety Officer - Qualified employee or competent person trained or having required experience in safety, occupational health and who is assigned overall responsibility to oversee on-site safety.

Safety Specialist - A person with specialized training or experience in safety and occupational health for specific items of work.

Qualified Person - One who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve or resolve problems related to the subject matter, the work or the project.

Certified Industrial Hygienist (CIH)- An industrial hygienist is an individual who is certified by the American Board of Industrial Hygiene.

Certified Safety Professional - A safety manager, safety specialist, or safety engineer that has passed the CSP exam administered by the Board of Certified Safety Professionals.

Competent Person - A competent person is one who is trained and capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G|COR

Within 20 calendar days after Notice of Award, submit Accident Prevention Plan with applicable specific work plans required by paragraph PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL of Appendix MINIMUM BASIC OUTLINE FOR ACCIDENT PREVENTION PLAN of COE EM 385-1-1. Refer to paragraphs ACCIDENT PREVENTION PLAN (APP) and ACCIDENT PREVENTION below.

Activity Hazard Analyses (AHA); G|COR

Refer to paragraph ACTIVITY HAZARD ANALYSES (AHA) below.

Employee Safety and Health Indoctrination (ESHI) and Training Plan

Refer to paragraph EMPLOYEE SAFETY AND HEALTH INDOCTRINATION (ESHI) AND TRAINING below.

Hazard Communication Plan

Refer to paragraph HAZARD COMMUNICATION PLAN below.

Emergency Response Plan

Refer to paragraph EMERGENCY RESPONSE PLAN below.

Hurricane and Severe Storm Plan; G|COR

Refer to paragraph HURRICANE AND SEVERE STORM PLAN below.

Critical Lift Plan; G|COR

Submit a critical lift plan for each non-routine crane lift using format described in Section MACHINERY AND MECHANIZED EQUIPMENT of COE EM 385-1-1. Refer to paragraph CRITICAL LIFT PLANNING PROCEDURE AND POLICY below.

Confined Space Plan; G|COR

Refer to paragraphs CONFINED SPACE PLAN, CONFINED SPACE ENTRY, and WORKING IN CONFINED SPACES below.

Spill Response Plan; G|COR

Refer to paragraph SPILL RESPONSE PLAN below.

SD-04 Samples

Sample Scaffold

Erect a sample section of scaffold for on-site fall protection training. Refer to paragraph SAFE ACCESS AND FALL PROTECTION below.

SD-07 Certificates

Safety Officer Qualifications; G|COR

Qualifications, and training certificates of safety personnel performing as safety specialists or assisting as Quality Control Staff. Includes first aid and CPR certifications. Refer to paragraph SAFETY OFFICER below.

[Crane Equipment

Equipment inspections and maintenance records for cranes and other equipment used to lift material, equipment or support personnel. See ASME B30.5 and ASME B30.22. Refer to paragraph "Crane Notification" below.

1.6 ACCIDENT PREVENTION PLAN (APP)

Prepare APP using format in Appendix MINIMUM BASIC OUTLINE FOR ACCIDENT PREVENTION PLAN of COE EM 385-1-1. See Appendix ACCIDENT PREVENTION PROVISIONS FOR CONTRACTORS AND IDENTIFIED GOVERNMENT ACTIVITIES of COE CESAJR 385-1-1 for additional detail.

1.6.1 Contents

1. Signature Sheet
2. Background Information
3. Statement of Safety and Health Policies
4. Responsibilities, Lines of Authorities
5. Subcontractors and Suppliers
6. Training
7. Safety and Health Inspections
8. Safety and Health Expectations, Incentive Programs
9. Accident Reporting
10. Medical Support
11. Personal Protective Equipment
12. Supplemental ("Tabbed") Work Specific Plans required by COE EM 385-1-1
13. Supplemental Information on how Contractor will meet major applicable portions of COE EM 385-1-1

1.6.2 Tabbed APP Appendices

Submit tabbed appendices to Accident Prevention Plan including: Activity Hazard Analyses; Jacksonville District work plans and applicable supplementary specific plans; and, procedures listed in Appendix A, paragraph PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL of COE EM 385-1-1 or COE CESAJR 385-1-1 Appendices.

1.6.2.1 Jacksonville District Required Work Plans

Jacksonville District Required Work Plans include:

Tab A - Activity Hazard Analysis Worksheets
Tab B - Employee Safety and Health Indoctrination and Training (See sample ESHI appended to the end of this Section)
Tab C - Hazard Communication
Tab D - Hurricane and Severe Storm Plan
Tab E - Emergency Response Plan
Tab F - Dive Plan
Tab G - Critical Lift Planning Procedure and Policy

Tab H - Confined Space
Tab I - Spill Response

1.6.2.2 Supplementary Plans in COE EM 385-1-1

Submit additional tabbed supplementary plans listed in Appendix A, paragraph PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL of COE EM 385-1-1 that are applicable to work as follows:

Temporary Facility Layout
Health Hazard Control
Hazardous Energy "Lock Out/Tag Out"
Access and Haul Road Plan
Fire Prevention
Compressed Air Plan
Formwork Shoring
Lift Slab (tilt up)

1.7 ACTIVITY HAZARD ANALYSES (AHA)

Submit AHAs as a tabbed APP Appendix. See Figure ACTIVITY HAZARD ANALYSIS of COE EM 385-1-1 for sample form. Contractor can download activity hazard analysis form (MS Word file) at Jacksonville District's Construction web page, "QC Forms": http://www.saj.usace.army.mil/conops/construction/construction_forms.htm. Describe activity being performed; sequence of work; specific hazards anticipated; control measures to eliminate or reduce each hazard to acceptable levels; training requirements for all involved; and, competent person in charge of that work.

1.8 EMPLOYEE SAFETY AND HEALTH INDOCTRINATION (ESHI) AND TRAINING

Submit Safety and Health Indoctrination and Training Plan as an APP tabbed appendix in accordance with paragraph INDOCTRINATION AND TRAINING of Section PROGRAM MANAGEMENT of COE EM 385-1-1. Provide a sample Employee Health and Safety Indoctrination (EHSI) Sheet.

1.8.1 New Employee Indoctrination

Describe new employee indoctrination and training required to be completed prior to an employee working on site. Document employee orientation. Keep records on file at project site or nearest office. Each employee shall sign an ESHI sheet. Sample form is on the web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below.

1.8.2 Visitor Briefing

Describe procedures for safety briefing site visitors. Train them on specific site hazards, site safety controls (i.e., hard-hat areas). Provide needed protective clothing (i.e., hard hats, reflective vest) and equipment (i.e., ear plugs, safety glasses) before they enter construction limits. Document visitor briefing with a file and visitor sign-in log on site. Report visitors in QC daily report.

1.9 HAZARD COMMUNICATION PLAN

Comply with OSHA 1910.1200 (the Hazard Communication Standard) and provide a Hazard Communication Plan describing implementation of the standard. Ensure site personnel including subcontractor employees, visitors,

Contracting Officer personnel are informed about health and physical hazards associated with materials being used. Provide a hazardous materials inventory to Contracting Officer upon request. Ensure proper labeling of hazardous material containers. Ensure Material Safety Data Sheets are on site.

1.10 HURRICANE AND SEVERE STORM PLAN

Submit proposed procedures to be taken to prevent: injury; damage to materials, equipment, and completed construction; and, minimize delays due to severe weather.

a. Address following conditions:

Hurricanes - Preparations prior to forecasted hurricane at 72 hours, 48 hours and 6 hours prior to predicted storm arrival.

Tornado/Water Spout - Actions to be taken for tornado warning and tornado warnings.

Thunderstorms/Squalls - Actions to be taken for high winds, lightning, heavy rainfall.

b. Include:

1. Provide detailed descriptions for actions to be taken.

2. The time intervals before storms when action will be taken for each type hazard.

3. List of equipment to be used on the project and its ability to handle adverse weather.

4. Distance from work area to a safe place and time required to move plant and equipment.

5. Method of securing equipment.

6. Methods of securing equipment not moved.

7. Plan of evacuation to include immediate reaction plans to be taken for all storm occurrences, particularly sudden storms.

8. A statement that full time monitoring of NOAA marine weather broadcasts or other local commercial weather forecasting services will be the Contractor's primary source of information in the decision process to implement action under severe weather plan.

1.11 EMERGENCY RESPONSE PLAN

Describe planned response procedures and planned drills as applicable for medical, fire fighting, injury evacuation, or wildfire. Submit certificates or wallet cards for designated First Aid and Coronary Pulmonary Resuscitation (CPR) responders. Provide planned communication methods to monitor employees working in remote areas. Provide sample posting sheets for local emergency responder phone numbers, reporting instructions, strip map to nearest medical treatment facility. Provide site sketch of location of first aid kits and fire extinguishers.

1.12 CRITICAL LIFT PLANNING PROCEDURE AND POLICY

Critical lift is defined in paragraph "Equipment operation" of Section MACHINERY AND MECHANIZED EQUIPMENT of COE EM 385-1-1. In accordance with paragraph "Critical lift plans" of Section MACHINERY AND MECHANIZED EQUIPMENT of COE EM 385-1-1, each critical lift requires a load and lift specific critical lift plan to be developed during preparatory phase. A critical lift plan is required whenever crane loads meet or exceed 75 percent of crane load capacity in any configuration. Describe who is responsible to identify such lifts, what procedures will be performed to prepare, review and approve critical lift plans, when critical lift plans will be submitted to Contracting Officer. Provide qualifications of persons identifying and overseeing critical lifts.

1.13 CONFINED SPACE PLAN

Confined space plan shall comply with paragraph CONFINED SPACE of Section HAZARDOUS SUBSTANCES, AGENTS AND ENVIRONMENTS of COE EM 385-1-1. Describe planning, control, policy and procedures to identify confined spaced, safe entry procedures and policy for emergency evacuation of injured persons.

1.14 SPILL RESPONSE PLAN

Provide information on hazardous chemicals and liquids anticipated to be stored on site and how Contractor proposes to contain spills, safely respond and clean up spills. Describe planning, controls, personal protective equipment and clean-up procedures.

1.15 SAFETY OFFICER

Designate an on-site Safety Officer to manage accident prevention program. Safety Officer or assistant shall be on site during all work. Safety Officer may not have other duties in addition to Safety Officer. Safety Officer shall report to and work directly for Contractor's on-site top manager (or higher level official) or corporate safety officer. Safety Officer shall be authorized to take immediate steps to correct unsafe and unhealthful conditions. Submit Safety Officer's resume of qualifications and job description within 20 days after Notice of Award.

1.15.1 Safety Officer Qualifications

Safety and Health Officer shall be present at the work site at all times during work activities to perform safety and occupational health managment, surveillance, inspections and safety enforcement for the Contractor. The work site shall not be left in an unsafe condition during non-work days. Safety Officer shall be qualified and have ability to manage on-site Contractor safety program, identify hazards, identify resources necessary to reduce hazards, and be a "competent person" as defined by COE EM 385-1-1. First aid work is not creditable. The safety and health officer shall meet the following requirements:

Level 3: Must have a minimum of 5 years safety work on similar projects. 30-hour OSHA construction safety class or equivalent within last 5 years is required. An average of at least 24 hours of formal safety training each year for the past 5 years is required. Competent person training as needed.

1.16 DISTRICT SAFETY PROGRAM

1.16.1 Site Safety Inspections by District Personnel

District Safety Office personnel perform periodic safety inspections on contract work sites as a staff function on behalf of District Engineer. District Construction Quality Assurance personnel periodically inspect plant, equipment and contract sites and evaluate safety as part of District construction program. When contract diving operations occur District Dive Coordinator may visit to inspect and observe Contractor. Inspectors evaluate how well both District personnel and Contractor are complying with requirements in COE EM 385-1-1, COE CESAJR 385-1-1, approved Accident Prevention Plan and supplements. Inspector reports will be submitted to Contracting Officer's Representative. Contractor will be notified of both accomplishments and deficiencies by Contracting Officer's Representative. Promptly correct deficiencies, document corrections and notify Contracting Officer.

1.16.2 Safety Pays Program

Safety Pays is described in COE CESAJP 385-1-2 located on Jacksonville District web site shown in paragraph SAFETY MANUALS above. Safety Pays is an incentive safety program where both Contractor and Contracting Officer's personnel are recognized for efforts to provide safer working environment.

1.17 MEETINGS

1.17.1 Phase Meetings

Refer to Section 01451 CONTRACTOR QUALITY CONTROL. Activity Hazard Analysis for each definable feature of work shall be reviewed and personnel attendance documented by Contractor. Examination of safety controls equipment is on-going in follow-up phase and progress meetings.

1.17.2 Supervisor Weekly Safety Meetings

Hold weekly meeting with on-site supervisors, foremen and QC Staff, at project site. Supervisor meeting shall address prevention of accidents, lessons learned, items of concern. Attach minutes with Contract number, signatures of attendees, and a list of topics discussed to the Contractor Quality Control Daily Report.

1.17.3 Weekly "Tool Box Meeting"

Hold a weekly meeting with all on-site personnel before start of work shift on a safety subject planned to prevent problems. For example, if hot weather is expected, discuss heat stress prevention and treatment. Report subject and number of employees attending on the Contractor Quality Control Daily Report.

1.18 DISPLAY OF SAFETY INFORMATION

Refer to Section 01500 TEMPORARY CONSTRUCTION FACILITIES. Provide a bulletin board to display following for viewing by on-site construction personnel:

a. Poster "Safety and Health Protection On the Job" required by Department of Labor, OSHA.

b. Emergency phone numbers.

c. Strip map with route to nearest emergency care facility.

d. Accident Reporting and Workman's Compensation information.

e. Applicable Activity Hazard Analyses (AHA).

1.18.1 Placarding

a. Label confined spaces.

b. Post confined space entry permit at entry point prior to persons entering.

c. Label and placard all hazardous materials stored or encountered on site (refer to Clause HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (CESAJ ADAPTATION) of Section 00800 SPECIAL REQUIREMENTS).

d. Safety Scoreboard Sign.

e. Provide a sign indicating number of days since last lost time injury (refer to Section 01500 TEMPORARY CONSTRUCTION FACILITIES).

1.19 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to project including: equipment operating manuals; manufacturer catalogs; Material Safety Data Sheets (MSDSs) on-site. (Refer to Clause HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (CESAJ ADAPTATION) of Section 00800 SPECIAL REQUIREMENTS.) Maintain one copy of APP with AHA and supplemental plans required by the contract.

1.20 REPORTS

1.20.1 Complaints and Accident Investigation

Contracting Officer will investigate complaints of unsafe or unhealthful working conditions received from Contractor employees or others. Contracting Officer will assign personnel to investigate serious accidents. Contractor will be notified of investigation results.

1.20.2 Accident Reports

Designate individual to track exposure data (hours worked); perform accident investigations; prepare reports and logs; and, notify Contracting Officer of accidents (to include subcontractors). Conduct accident investigations to establish causes for accidents and injuries. For an accident or work related illness which results in a lost workday or over $2,000 in property damage, notify Contracting Officer's Representative within one work day providing information in paragraph "Notification" below. Complete Accident Investigation Report (ENG FORM 3394) and provide completed report to Contracting Officer within 5 work days of accident. For fatal accident, over $200,000 damage, three or more persons hospitalized, or any accident which may result in adverse publicity to Corps Of Engineers, immediately notify Contracting Officer's Representative and District Safety Office using phone and fax numbers provided at Preconstruction Conference. Submit completed ENG 3394 as soon as possible after initial phone or fax notification. Accident Investigation Report

form (ENG FORM 3394) and instructions for completing form are at http://www.usace.army.mil/inet/usace-docs/forms/.

1.20.3 Notification

Notify Contracting Officer with following information:

Contractor Name
Contract Number and Title
Type of contract
Location where accident occurred
Date and time of accident
Names of personnel injured
Extent of injury and property damage
A brief description of accident (to include type of construction equipment used, PPE used, etc.).

1.20.4 Monthly Exposure Report

Submit a monthly exposure report to Contracting Officer. Exposure report is a total of employee-hours worked each month for all site workers, both prime and subcontractor.

1.20.5 Crane Notification

Notify Contracting Officer at least 10 working days prior to bringing crane equipment on-site so Contracting Officer may arrange for additional quality assurance checks.

1.21 SAFETY EQUIPMENT

1.21.1 Lightning-Detection Equipment

The Contractor shall furnish, maintain, and operate lightning-detection equipment during the entire period of blasting operations and/or during the periods that explosives are stored at the site. The equipment shall be approved by the Contracting Officer, and shall be similar and equal to the Litton TSM/C Thunderstorm Monitor and Lightning Warning Instrument, as manufactured by Litton Industries, Inc., Environmental Systems Division, Camarillo, California. The equipment shall be installed where approved by the Contracting Officer. When the lightning-detection device indicates a blasting hazard potential, personnel shall be evacuated from all areas where explosives are present.

1.21.2 Stray Ground Currents

Prior to blasting, a test shall be made for stray ground currents. The Contractor shall furnish both AC and DC voltmeters capable of reading 0.05 volts and shall employ the proper techniques in conducting the tests. Electrical blasting operations shall not be carried out when the maximum reading by the AC and DC voltmeters exceeds 0.05 ampere. The Contractor shall take all precautions outlined under "Stray Current", contained on pages 179 and 181 of DuPont's Blasters Handbook (16th Edition), to prevent premature detonation from stray ground currents.

PART 2 PRODUCTS

2.1 CONFINED SPACE SIGNAGE

Provide permanent signs at access covers for new permit required confined spaces. Signs wording: "DANGER -- PERMIT REQUIRED CONFINED SPACE - DO NOT ENTER" on bold letters a minimum of one inch in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 5 feet.

2.2 FIRST AID KITS

Furnish one 16-unit first aid kit per 25 employees, inspect weekly for supplies and note on inspection form located at kit.

2.3 PORTABLE FIRE EXTINGUISHERS

Portable fire extinguishers shall be located and used in accordance with paragraph FIRST RESPONSE FIRE PROTECTION of Section FIRE PREVENTION AND PROTECTION of COE EM 385-1-1, inspected monthly, maintained, and recharged as specified in NFPA 10.

PART 3 EXECUTION

3.1 EMERGENCY MEDICAL TREATMENT

Contractor shall arrange with local authorities for emergency medical response, treatment and evacuation. Provide first aid kits in areas of work and inspect weekly to ensure stockage. Provide 2 personnel trained in first aid and CPR for each shift in accordance with paragraph GENERAL of Section MEDICAL AND FIRST AID REQUIREMENTS of COE EM 385-1-1.

3.2 ACCIDENT PREVENTION

Comply with COE EM 385-1-1, NFPA 241, approved APP, AHA, and other related submittals. Contractor shall become familiar with safety requirements in Clause ACCIDENT PREVENTION of Section 00700 CONTRACT CLAUSES; COE EM 385-1-1; COE CESAJR 385-1-1; COE CESAJP 385-1-2, and latest OSHA standards, applicable U.S. Coast Guard safety regulations, and applicable Territorial laws and regulations and local fire and safety regulations. Contractor shall have full knowledge of personal protective equipment to be provided workmen and applicable safety standards. COE EM 385-1-1 and COE CESAJR 385-1-1 are consistent with OSHA Construction Safety and Health Regulations 29 CFR 1926. For operations not covered under COE EM 385-1-1 or COE CESAJR 385-1-1, OSHA standards shall be complied with. When there is no OSHA standard, comply with Department of the Army, Department of Defense, U.S. Coast Guard or National Consensus Standards (e.g., API - American Petroleum Institute). Contractor shall only use plant and equipment in compliance with contract safety requirements.

3.3 CONFINED SPACE ENTRY

Establish a confined space entry permit system. A permit shall be issued for each confined space entry. Permits shall include location of work, work description, employees assigned entry, entry date and time, results of atmospheric tests performed, person performing test, authorization and permit expiration time. A sample confined space permit is at Jacksonville District's Construction web site: http://www.saj.usace.army.mil/conops/index.htm. Post permits at entry

point when working in confined space and renew when entry personnel change. Forward a copy of confined space permits to Contracting Officer prior to entry.

3.4 OIL AND HAZARDOUS MATERIAL SPILLS AND CONTAINMENT

Report all spills to Contracting Officer immediately. Clean-up spills in accordance with COE EM 385-1-1 and MSDSs. Use dikes, curbs to prevent spread of oil or hazardous materials from storage tanks and piping leaks. Comply with Section 01355 ENVIRONMENTAL PROTECTION reporting.

3.5 PERSONNEL PROTECTION

Designate and mark safety zones requiring personal protection. Examples include hard hat zone, areas where eye and hearing protection is required.

3.5.1 Hazardous Noise

Provide hazardous noise signs, and hearing protection, wherever equipment and work procedures produce sound-pressure levels greater than 85 dBA steady state or 140 dBA impulse, regardless of duration of exposure.

3.6 ELECTRICAL WORK

Underground electrical spaces shall be certified safe for entry before entering to conduct work. Cable intended to be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with Contracting Officer and utility owner for identification. No outage request will be accepted until Contractor satisfactorily documents circuits have been clearly identified. In walls or concealed areas use non-conductive fish tape to pull wire. Perform all high voltage cutting remotely. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. Insulating blankets, hearing protection, and switching suits may be required, depending on the specific job and as delineated in the Contractor AHA.

3.7 WORK IN CONFINED SPACES

Comply with the requirements in paragraph CONFINED SPACE of Section HAZARDOUS SUBSTANCES, AGENTS AND ENVIRONMENTS COE EM 385-1-1. Any potential for a hazard in the confined space requires a permit system to be used.

a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See subparagraph

"Permit-required confined space entry procedures" of paragraph CONFINED SPACE of Section HAZARDOUS SUBSTANCES, AGENTS AND ENVIRONMENTS of COE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.

b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained.

c. Ensure the use of rescue and retrieval devices in confined spaces greater than 5 feet in depth. Conform to subparagraphs "On-site rescue/emergency teams", ""Off-site rescue and emergency services", and "To facilitate non-entry rescues, retrieval systems or methods" of paragraph CONFINED SPACE of Section HAZARDOUS SUBSTANCES, AGENTS AND ENVIRONMENTS of COE EM 385-1-1.

d. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

e. Include training information for employees who will be involved as entrant attendants for the work. Conform to subparagraph "Training" of paragraph CONFINED SPACE of Section HAZARDOUS SUBSTANCES, AGENTS AND ENVIRONMENTS of COE EM 385-1-1.

f. Entry Permit. Use ENG FORM 5044-R or other form with the same minimum information for the Daily Confined Space Entry Permit, completed by the qualified person. Post the permit in a conspicuous place close to the confined space entrance.

3.8 HOUSEKEEPING

3.8.1 Clean-up

All debris in work areas shall be cleaned up daily or more frequently as necessary. Construction debris may be temporarily located in an approved location; however, garbage accumulation must be removed each day.

3.8.2 Dust Control

In addition to the dust control measures required elsewhere in contract documents, dry cutting of brick or masonry shall be prohibited. Wet cutting must address control of water run off.

3.9 ACCIDENT SCENE PRESERVATION

For serious accidents and accidents involving weight handling equipment, ensure the accident site is secured and evidence is protected remaining undisturbed until released by the Contracting Officer.

3.10 QUALITY CONTROL

Quality Control and Safety are supporting complimentary functions. Include safety activities and documentation of meetings and site safety inspection as a part of Quality Control activities and QC Daily report required in Section 01451 CONTRACTOR QUALITY CONTROL.

3.11 SAFE ACCESS AND FALL PROTECTION

Furnish ladders, nets, guard rails and other required fall protection equipment to provide safe access and fall protection in accordance with

Section SAFE ACCESS AND FALL PROTECTION of COE EM 385-1-1. Furnish personal protective equipment of body harnesses, lanyards, lifelines in accordance with subparagraph "Lineman's equipment" of Section PERSONAL PROTECTIVE AND SAFETY EQUIPMENT of COE EM 385-1-1. Furnish safety and debris nets designed and tested in accordance with paragraph SAFETY AND DEBRIS NETS - DESIGN AND TESTING of Section PERSONAL PROTECTIVE AND SAFETY EQUIPMENT of COE EM 385-1-1. Identify features of work and work areas with high falling risk requiring fall protection. Examples include: work above six feet; work on scaffolding; work near edges or penetrations of floors; roofs or decks; steel erection; overhead electrical work; dredging; work with construction lift equipment. In preparatory phase review activity hazard analysis, required equipment, employee supervision and supervisor inspection of equipment. In initial phase provide employee training and perform supervisor inspection of PPE and other fall protection equipment. During follow-up phase perform on going supervision and inspection by supervisors, safety and quality control staff.

3.11.1 Fall Protection Training

Train employees exposed to fall hazards in use of PPE, hazard identification, avoidance, and policy to correct hazards. Train Supervisors to inspect fall protection equipment and supervise work to reduce fall risks.

3.11.2 Sample Scaffold

Erect a minimum 10 foot long by 2 section high on-site scaffold sample prior to erection of work scaffold. Train employees and supervisors in safe access procedures and equipment inspection. Retaining scaffolding sample as long as required for construction tasks or as directed by Contracting Officer.

3.12 ACCESS AND HAUL ROADS ADJACENT TO CANALS

For each project involving canal hazards, submit an APP, access and haul road plan, and AHA that identify and provide control measures for canal hazards. The Contractor shall ensure that access and haul road plan complies with COE EM 385-1-1, and includes items indicated below. Construct access and haul roads in accordance with the paragraph HAUL ROADS of Section 01500 TEMPORARY CONSTRUCTION FACILITIES and COE EM 385-1-1.

3.12.1 Inspection

Inspect access and haul roads, submitting the safety checklist developed by the SOH office, and revise the access and haul road plan when additional haul and access road hazards are identified at the project site.

3.12.2 Signs and Barriers

Indicate proposed placement of signs, barriers and speed limits in APP. Place sufficient signs and barriers to indicate the drop-off hazard posed by an adjacent canal. See MUTCD, PART 6 for guidance on signs. Place stop signs at all intersections. Place speed limit signs approaching and after intersections, before curves, and otherwise every half mile. Place U-channel steel posts with highly visible flagging or reusable polypropylene fabric fencing along the edge of each access or haul road adjacent to a canal. The distance between posts shall be sufficient to support the fabric (if used) or no greater than indicated in the paragraph HAUL ROADS of Section 01500 TEMPORARY CONSTRUCTION FACILITIES.

3.12.3 Equipment and Vehicles

Ensure safety and escape features on all equipment and vehicles are operational.

3.12.4 Briefings and Enforcement

Brief every employee during orientation and toolbox meetings about recognizing and controlling canal hazards, using the APP, access and haul road plan, and AHA for work on roads adjacent to canals. Inform all employees that while operating equipment and vehicles, they shall not engage in any activity (eating, drinking, smoking, use of cell phone, etc.) that would interfere with safe operation. Inform all employees operating equipment and vehicles that they will be subject to disciplinary action, including termination, if cited for speeding and other reckless driving. Include a plan in the APP for monitoring construction traffic for speeding and other reckless driving.

3.13 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm.

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SECTION 01550

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SECTION 01550

TRAFFIC CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FP-96	(1996) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (See Page iv for SI (Metric) to English Converion Factors)
MUTCD, PART 6	(2003) Manual on Uniform Traffic Control Devices - Temporary Traffic Control
Detail 63501	Department of Public Works, Office of Highway Engineering, Detail, Monbijou Flood Control, Traffic Control Plan or Traffic Control Devices (7 Sheets, Posted as D63501.pdf)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Traffic Control Plan; G|COR

The Plan shall be in written form and shall indicate the type and location of all signs, lights, barricades, striping, and barriers to be used for safe passage of vehicular traffic through the project, and for the protection of construction traffic and workers through the project. The Plan shall include specific details addressing ingress and egress at all access points along Highway 73 and Mon Bijou Road. The Plan shall indicate conditions and setups for each phase of the Contractor's activities. In no case shall the Contractor begin work until the Plan has been approved. Modifications to the Plan that become necessary shall be submitted in writing for approval. Except in an emergency, no modifications to the approved Plan shall be implemented on the project until the Contractor submits and receives approval of such

modification.

1.3 GENERAL REQUIREMENTS

1.3.1 Codes

Work includes the furnishing, erection, relocation, maintenance and eventual removal of temporary signs, barricades, pavement markings, lighting, signals, flaggers and other traffic control devices as may be required for the maintenance and protection of traffic. Traffic control devices and traffic control operations shall be in conformance with the MUTCD, PART 6.

1.3.2 Safety

Operations shall be conducted in a manner to insure the convenience and safety of travelers and abutting property owners as well as the safety of the Contractor's employees.

1.3.3 Responsibility

The Contractor has sole responsibility for providing the necessary traffic control devices and taking other appropriate measures for the protection of the public and his personnel. The fact that provisions may be included in the plans and other contract documents, or may be ordered, for the maintenance and protection of traffic during construction, does not relieve the Contractor of his responsibilities. In the absence of specific provisions in the contract plans and specifications, or instructions from the Contracting Officer, additional devices and operational measures as may be considered necessary for the protection of the public and his employees shall be provided.

1.3.4 Cleanup

Temporary traffic control devices installed under this specification shall remain the property of the Contractor and shall be removed from the project after release by the Contracting Officer.

PART 2 PRODUCTS

2.1 MATERIALS

Traffic control devices shall conform to the design, materials, colors, fabrication and installation requirements specified by FP-96 and the applicable specification as may be modified by this Section. Traffic control devices, whether new or used, shall be in good working condition and shall be subject to approval. Reflective sheeting of the encapsulated lens grade shall be used on all devices requiring reflectorization.

2.2 ROADWAY MAINTENANCE

Existing and temporary pavements shall be kept in good repairs using the same or materials compatible with the pavement. In general, plant-mixed bituminous concrete is suitable for all pavement surfaces. Other suitable material may be used if approved.

PART 3 EXECUTION

3.1 CONSTRUCTION IN GENERAL

The Contracting Officer shall be notified before starting any work that might inconvenience or endanger traffic, or where the Contractor must provide signs, barricades, flaggers, and/or other appurtenances for the maintenance and protection of traffic.

3.1.1 Delay to Traffic

Construction operations shall be conducted to insure a minimum of delay to traffic. Stopping traffic for more than 5 minutes shall not be permitted unless specifically authorized.

3.1.2 Debris

The traveled way shall be maintained free of foreign objects such as spilled earth, rocks, timber, and other items that may fall from transporting vehicles. Materials spilled by or dropped from any vehicle used in the Contractor's hauling operations along or across any public traveled way, both within and outside the project limits, shall be removed immediately.

3.1.3 Dust Control

Dusty conditions resulting from the Contractor's operations shall be corrected by the use of calcium chloride and/or water.

3.1.4 Ingress and Egress

Provide and maintain safe and adequate ingress and egress to and from intersecting highways, private points of access, and other establishment at existing or new access points, consistent with the work, unless otherwise shown on the plans or authorized.

3.1.5 Existing Signage

Existing traffic signs and other traffic control devices within the project limits which are to remain shall be protected from damage by construction operations. Any such items lost or damaged because of negligence on the part of the Contractor shall be replaced. Should temporary relocation of any such items be required because of construction operations, they shall be placed as directed.

3.1.6 Parking

The Contractor shall not permit his employees to park their vehicles nor shall he store equipment or materials adjacent to the traveled way or FDOT rights-of-way where it may be a hazard to traffic. Normally, a clear distance of at least 30 feet from the edge of pavement shall be kept free of any such obstacles unless otherwise authorized.

3.1.7 Hazards

Whenever construction operations near the traveled way result in a hazardous condition to the traveling public, the extent of such operations shall be limited to work that can be performed within a reasonable period of time. Once started, such work shall progress continuously to completion

within a reasonable extent of time.

3.1.8 Temporary Traffic Control Devices

Temporary devices shall remain in operation only as long as they are needed for traffic guidance and safety. Only those devices shall be in place as apply to conditions and operations in existence at a particular time. Traffic control devices shall be cleaned, repainted, reflectorized or replaced as necessary to provide adequate visibility and legibility.

3.1.9 Placement of Traffic Control Devices

Place traffic control devices as indicated in Detail 63501. The traffic control devices shown on Sheet Numbers TC-1, TC-2 and TC-3 of Detail 63501 shall become the property of the Government and remain in place upon completion of work.

3.2 TRAFFIC REGULATIONS

Highway ramps and crossings and approaches to crossings and FDOT rights-of-way used by the Contractor's equipment, shall be kept clear of debris and excavated material resulting from the Contractor's operations. Ramps shall be constructed approaching and leaving the highway pavement. The gross weight of each loaded vehicle using roadways and crossing shall not exceed State and local limits. The roadway at the ramp and crossing sites shall be restored to conditions existing before hauling operations started. If the highway pavement has been damaged as a result of the Contractor's operations, the pavement shall be reconstructed to the proper line and grade in conformance with FP-96.

3.3 TRAFFIC CONTROL STANDARDS

The MUTCD, PART 6 sets forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workers from hazards within the project limits. The standards established in MUTCD, PART 6 constitute the minimum requirements for normal conditions, and additional traffic control devices, warning devices, barriers or other safety conditions exist.

3.4 CONSTRUCTION SIGNS

Signs shall be furnished, erected, maintained, moved and removed as required and as directed to adequately and safely inform and direct the traveling public. The number of signs indicated in the MUTCD, PART 6 are a minimum and the Contracting Officer may require additional signs. The Contractor shall have an adequate quantity of these signs on hand prior to starting construction operations for use as required. Sign sizes and details shall conform to the MUTCD, PART 6 or standard models. Signs and markers shall indicate actual existing conditions and shall be moved, removed, relocated, or changed as directed. Signs shall be kept clean and in good condition for the duration of the contract. They shall be mounted at the required height on the adequate supports and placed in proper position and alinement so as to give maximum visibility both day and night. During nonworking hours and following the completion of a particular construction operation, all warning signs, except those required to remain for the safety of the public, shall be removed or covered.

3.5 BARRICADES, CONES, AND DRUMS

Barricades, cones, and drums shall be furnished, erected, maintained, moved, replaced, and removed where indicated in the MUTCD, PART 6, Part VI, or as directed. Where required or directed, construction barricades shall be supplemented either by approved flashing or steady burning lights as appropriate.

3.6 FLAGGERS

Sufficient number of trained flaggers shall be provided where vehicles are entering or leaving highways. Flaggers shall wear orange helmets and vests and operate in conformance with the procedures and requirements of FP-96.

3.7 LIABILITY

Operations shall be conducted in such a manner that no undue hazard will result due to the above requirements, and the procedures and policies described therein shall in no way act as a waiver of any of the terms of the liability of the Contractor or his surety.

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SECTION 01780

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SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

As-Built Drawings; G|COR

Drawings showing final as-built conditions of the project. The final CADD as-built drawings shall consist of 4 sets of electronic CADD drawing files in the specified format, 1 set of mylar drawings, 2 sets of blue-line prints of the mylars, 1 set of the approved working as-built drawings, and 2 CD-ROMs containing scanned .tif files scanned from the approved working as-built drawings.

1.2 PROJECT RECORD DOCUMENTS

1.2.1 As-Built Drawings

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings.

1.2.1.1 Government-Furnished Materials

One set of electronic CADD files in the specified software and format revised to reflect all bid amendments will be provided by the Government at the Preconstruction Conference for projects requiring CADD file as-built drawings.

1.2.1.2 Working As-Built and Final As-Built Drawings

The Contractor shall revise 2 sets of paper drawings by red-line process to show the as-built conditions during the prosecution of the project. These working as-built marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. All mechanical and electrical changes due to field Request for Information (RFI) process, equipment shop drawings reflecting modified data due to submittal and approval process, and contract field and design modifications

shall be incorporated in the as-built mark-up drawings. Final as-built drawings shall be prepared after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. The working and final as-built drawings shall show, but shall not be limited to, the following information:

a. The actual location, kinds and sizes of all subsurface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the as-built drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded.

b. The location and dimensions of any changes within the building structure.

c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

f. Changes or modifications which result from the final inspection.

g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.

h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

i. Systems designed or enhanced by the Contractor; such as, but not limited to, HVAC controls, fire alarm, fire sprinkler, irrigation systems, pumping equipment, hydraulic operating system, fuel system, electrical controls, one-line diagram telemetry and SCADA system, conduit and piping layout, etc.

j. Modifications (change order price shall include the Contractor's cost to change working and final as-built drawings to reflect modifications) and compliance with the following procedures.

(1) Directions in the modification for posting descriptive changes shall be followed.

(2) A Modification Circle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Circle shall be placed by the detail or section title.

(4) For minor changes, a Modification Circle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Circle shall be placed by the title of the affected plan, section, or detail at each location.

(6) For changes to schedules or drawings, a Modification Circle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Circle size shall be 1/2 inch diameter unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

1.2.1.3 Drawing Preparation

The as-built drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working as-built prints, and adding such additional drawings as may be necessary. These working as-built marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.2.1.4 Computer Aided Design and Drafting (CADD) Drawings

Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare additional new drawings. Additions and corrections to the contract drawings shall be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols shall be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished by incorporating the same CADD program/system used to prepare the contract design set. The Contractor will be furnished Microstation design files. The electronic files will be supplied on compact disc, read-only memory (CD-ROM). The Contractor shall use the electronic design files provided by the Government at the Preconstruction Conference to prepare changes and additions to the electronic as-constructed drawings. New drawings added to the original set of drawings shall be prepared in the same CADD format used to create the original files provided by the Government. The Contractor shall not translate or change the Government-furnished files from original formats. As-built record changes shall be recorded using the manufacturer's program

in which the original files were created. The Contractor shall be responsible for providing all programs and hardware necessary to prepare final as-built drawings. The Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make required corrections, changes, additions, and deletions.

a. The Contract Drawing files shall be renamed in a manner related to the contract number (i.e., 98-C-10.DGN) as instructed in the Preconstruction Conference. Marked-up changes shall be made only to those renamed files. The renamed files corrected to reflect the "as-built" condition are hereafter referred to as "as-constructed" design files.

b. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 3/16 inch high. All other contract drawings shall be marked either "AS-BUILT" drawing denoting no revisions on the sheet or "REVISED AS-BUILT" denoting one or more revisions. Original contract drawings shall be dated in the revision block. The Contractor shall sign the cover sheet of the marked-up drawings in the following manner: "I CERTIFY THAT THESE CORRECTED DRAWINGS INDICATE CONSTRUCTION AS ACTUALLY PERFORMED AND ARE AN ACCURATE REPRESENTATION OF THE SPECIFIED WORK. THESE CORRECTED DRAWINGS ARE APPROVED FOR PREPARATION OF AS-BUILT CONSTRUCTION DRAWINGS."

c. Within 20 days after Government approval of all of the working as-built drawings for a phase of work, the Contractor shall prepare the final CADD as-built drawings for that phase of work and submit two sets of blue-lined prints of these drawings for Government review and approval. The Government will promptly return one set of prints annotated with any necessary corrections. Within 10 days the Contractor shall revise the CADD files accordingly at no additional cost and submit one set of final prints for the completed phase of work to the Government. Within 20 days of substantial completion of all phases of work, the Contractor shall submit the final as-built drawing package for the entire project. The submittal shall consist of 4 sets of "as-constructed" design files in Microstation format on compact disc, read-only memory (CD-ROM); 1 set of the approved working as-built drawings; and, 2 CD-ROMs containing .tif files electronically generated or scanned from the approved set of working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. The .tif files produced from the approved working as-builts shall be of high resolution and quality, and easily readable. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the customer's CADD system. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.2.2 Final Approved Shop Drawings

The Contractor shall furnish final approved project shop drawings 30 days after transfer of the completed facility.

1.2.3 Construction Contract Specifications

The Contractor shall furnish final as-built construction contract specifications, including modifications thereto, 30 days after transfer of the completed facility.

1.3 MECHANICAL TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

Prior to final inspection and transfer of the completed facility; all reports, statements, certificates, and completed checklists for testing, adjusting, balancing, and commissioning of mechanical systems shall be submitted to and approved by the Contracting Officer as specified in applicable technical specification sections.

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SECTION 02220

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6	(1990; R 1998) Safety Requirements for Demolition Operations

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61-SUBPART M	National Emission Standard for Asbestos

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety and Health Requirements Manual

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from Government property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Certificates

Demolition plan; G|COR

Notifications; G|COR

Notification of Demolition and Renovation forms; G|COR

Submit proposed demolition and removal procedures to the Contracting Officer for approval before work is started.

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform with ANSI A10.6.

1.4.1 Notifications

1.4.1.1 General Requirements

Furnish timely notification of demolition projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61-SUBPART M. Notify the Contracting Officer in writing 10 working days prior to the commencement of work in accordance with 40 CFR 61-SUBPART M.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance [or hazard] in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.

1.6 PROTECTION

1.6.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Contracting Officer prior to beginning such work.

1.6.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Contracting Officer approval.

1.6.3 Trees

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 6 foot high fence. The fence shall be securely erected a minimum of 5 feet from

the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Contracting Officer.

1.6.4 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, of lateral support until demolished, unless directed otherwise by the Contracting Officer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.6.5 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.8 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Contracting Officer.

1.9 REQUIRED DATA

Demolition plan shall include procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Include statements affirming Contractor inspection of the existing roof deck and its suitability to perform as a safe working platform or if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work. The procedures shall provide for safe conduct of the work in accordance with EM 385-1-1.

1.10 ENVIRONMENTAL PROTECTION

The work shall comply with the requirements of Section 01355 ENVIRONMENTAL

PROTECTION.

1.11 USE OF EXPLOSIVES

Use of explosives will not be permitted.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

Existing structures indicated shall be removed to grade. Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

3.1.2 Utilities and Related Equipment

Remove existing utilities uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area. Remove meters and related equipment and deliver to a location in accordance with instructions of the Contracting Officer. If utility lines are encountered that are not shown on drawings, contact the Contracting Officer for further instructions.

3.1.3 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs including aggregate base to a depth of 12 inches below grade.

3.2 DISPOSITION OF MATERIAL

3.2.1 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of in the disposal area shown on the drawings. After disposal is completed, the disposal area shall be uniformly graded to drain. Combustible material shall be disposed of in the sanitary fill area located off the site.

3.3 CLEANUP

Debris and rubbish shall be removed from the site and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

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SECTION 02231

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Materials Other Than Salable Timber; G|COR

Written permission to dispose of such products on private property shall be filed with the Contracting Officer.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Roads and Walks

Keep roads and walks free of dirt and debris at all times.

3.1.2 Trees, Shrubs, and Existing Facilities

Protection shall be in accordance with Section 01355, ENVIRONMENTAL PROTECTION. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.1.3 Utility Lines

Protect existing utility lines that are indicated to remain from damage. Notify the Contracting Officer immediately of damage to or an encounter with an unknown existing utility line. The Contractor shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to the Contractor prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, the Contractor shall notify the Contracting Officer in ample time to minimize interruption of the service. Refer to Section 01310, ADMINISTRATIVE PROCEDURES for additional utility protection.

3.2 CLEARING

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish

occurring within the areas to be cleared. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work. Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches.

3.3 GRUBBING

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas. Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas for buildings, and areas to be paved. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

3.4 DISPOSAL OF MATERIALS

3.4.1 Saleable Timber

All timber on the project site noted for clearing and grubbing shall become the property of the Contractor, and shall be removed from the project site and disposed of off stations.

3.4.2 Nonsaleable Materials

Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations, except for salable timber, shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility, except when otherwise directed in writing. Such directive will state the conditions covering the disposal of such products and will also state the areas in which they may be placed.

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SECTION 02316

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SECTION 02316

EXCAVATION, TRENCHING AND BACKFILL FOR UTILITIES SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3))
ASTM D 2487	(2000) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996el) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1996) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Trench Excavation Plan; G|COR

Trench excavation plan shall be submitted for approval prior to excavation.

SD-06 Test Reports

Laboratory and Field Test Reports

Submit copies of all laboratory and field test reports to the Contracting Officer's Representative within 24 hours of completion of the test.

1.3 DEFINITIONS

1.3.1 Degree of Compaction

Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557.

1.3.2 Backfill Material

The type of material indicated is defined in the paragraph FILL MATERIAL in PART 2 (PRODUCTS) below.

1.4 QUALITY CONTROL TESTING

Quality control testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government.

1.4.1 Testing Facilities

Tests shall be performed by an approved commercial testing laboratory, or may be tested by facilities furnished by the Contractor. No work requiring testin will be permitted until the facilities have been inspected and approved by the Contracting Officer.

1.4.2 Testing of Backfill Materials

Classification of backfill materials shall be determined in accordance with ASTM D 2487, and the miosture-density relations of soils shall be determined in accordance with ASTM D 1557. A minimum of one soil classification and one moiture-density relation test shall be performed on each different type of material used for bedding and backfill, for every 225 cubic yards placed.

1.4.3 Field Density Tests

Tests shall be performed in sufficient numbers to ensure that the specified density is being obtained. A minimum of one field density test per lift of backfill for every 1000 feet of installation shall be performed. One moisture density relationship shall be determined for every 1500 cubic yards of material used. Field in-place density shall be determined in accordance with ASTM D 1556 or ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using the sand cone method as described in paragraph Calibration of the ASTM publication. ASTM D 2922 results in a wet unit weight of soil and when using this method, ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall be checked along with density calibration checks as described in ASTM D 3017. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job, on each different type of material encountered, at intervals as directed by the Contracting Officer. Copies of calibration curves, results of calibration tests, and field and laboratory density tests shall be furnished to the Contracting Officer. Trenches improperly compacted shall be reopened to the depth directed, then refilled and compacted to the density specified at no additional cost to the Government.

PART 2 PRODUCTS

2.1 FILL MATERIAL

2.1.1 Satisfactory Material

Satisfactory material shall consist of any material classified by the Unified Soil Classification System as GM, GW, GP, GC, SW, SP, SM, SC, and dual classification of these materials.

2.1.2 Unsatisfacory Material

Unsatisfactory material is material that does not comply with the requirements for satisfactory materials. Unsatisfactory materials include but are not limited to those materials containing roots and other organic matter, trash, debris, and stones larger than three inches, and materials classified in the Unified Soil Classification System as MH, ML, PT, OH, CL, CH, and OL. Unsatisfactory materials also include man-made fills, refuse, or backfills from previous construction.

2.1.3 Cohesionless and Cohesive Material

Cohesionless materials include materials classified in the Unified Soil Classification System as GW, GP, SW, and SP. Cohesive materials include materials classified as GC and SC. Materials classified as GW-GM, GP-GM, SW-SM, SP-SM, GM and SM shall be identified as cohesionless only when the fines are non-plastic.

2.1.4 Unyielding Material

Unyielding material shall consist of rock and gravelly soils with stones greater than three inches in any dimension or as defined by the pipe manufacturer, whichever is smaller.

2.1.5 Unstable Material

Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

2.1.6 Select Granular Material

Select granular material shall consist of well-graded sand, gravel, crushed gravel, crushed stone or crushed slag composed of hard, tough and durable particles, and shall contain not more than 10 percent by weight of material passing a No. 200 mesh sieve and no less than 95 percent by weight passing the one-inch sieve. The maximum allowable aggregate size shall be two inches, or the maximum size recommended by the pipe manufacturer, whichever is smaller.

2.1.7 Initial Backfill Material

Initial backfill material shall consist of select granular material or satisfactory materials free from rocks two inches or larger in any dimension or free from rocks of such size as recommended by the pipe manufacturer, whichever is smaller.

2.2 PLASTIC MARKING TAPE

Plastic marking tape shall be acid and alkali resistant polyethylene film,

six inches wide with minimum thickness of 0.004 inch. Tape shall have a minimum strength of 1750 psi lengthwise and 1500 psi crosswise. The tape shall be manufactured with integral wires, foil backing or other means to enable detection by a metal detector when the tape is buried up to three feet deep. The tape shall be of a type specifically manufactured for marking and locating underground utilities. The metallic core of the tape shall be encased in a protective jacket or provided with other means to protect it from corrosion. Tape color shall be blue and shall bear a continuous printed inscription describing the water system.

PART 3 EXECUTION

3.1 EXCAVATION

Excavation shall be performed to the lines and grades indicated. Unclassified excavation shall include removal and disposal of material not classified as rock excavation. Rock excavation shall be classified as any material not readily removable by excavation equipment. Blasting will not be permitted. During excavation, material satisfactory for backfilling shall be stockpiled at a distance from the banks of the trench equal to at least 1/2 the depth of the excavation, but in no instance closer than two feet. Excavated material not required or not satisfactory for backfill shall be removed from the site or shall be disposed of in the indicated disposal areas. Grading shall be done as necessary to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation. Unauthorized overexcavation shall be backfilled in accordance with paragraph BACKFILLING AND COMPACTION below at no additional cost to the Government.

3.1.1 Trench Excavation

The trench shall be excavated as recommended by the manufacturer of the pipe to be installed. Trench walls below the top of the pipe shall be sloped, or made vertical, and of such width as recommended in the manufacturer's installation manual. Where no manufacturer's installation manual is available, trench walls shall be made vertical. Trench walls more than 3 feet high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be exposed to moving ground or cave-in. Vertical trench walls more than 3 feet high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed 24 inches plus pipe outside diameter (O.D.) for pipes of less than 24 inches inside diameter, and shall not exceed 36 inches plus pipe outside diameter for sizes larger than 24 inches inside diameter. Where recommended trench widths are exceeded, redesign, stronger pipe, or special installation procedures shall be used by the Contractor. The cost of redesign, stronger pipe, or special installation procedures shall be borne by the Contractor with no additional cost to the Government.

3.1.1.1 Bottom Preparation

The bottoms of trenches shall be accurately graded to provided uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of two inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is

smaller, shall be removed to avoid point bearing.

3.1.1.2 Removal of Unyielding Material

Where unyielding material is encountered in the bottom of the trench, such material shall be removed 12 inches below the required grade and replaced with select granular material as provided in paragraph BACKFILLING AND COMPACTION below.

3.1.1.3 Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, such material shall be removed 12 inches below the required grade or to the depth directed and replaced to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION below. When removal of unstable material is required due to the fault or neglect of the Contractor in his performance of the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Government.

3.1.2 Excavation for Appurtenances

Excavation for manholes, catch-basins, inlets, or similar structures shall be sufficient to leave at least 12 inches clear between the outer structure surfaces and the face of the excavation or support members. Removal of unstable material shall be as specified above. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed.

3.1.3 Excavation Across Pavement

All pavement shall be saw-cut prior to excavation. Pavement pieces shall be disposed of prior to further excavation.

3.1.4 Disposal

Disposal of satisfactory and unsatisfactory materials shall be placed and graded as specified. Disposal areas shall be kept in a neat and well-drained condition, giving due consideration to drainage at all times. The ground surface at disposal areas shall be cleared, grubbed, and sealed by rubber-tired equipment, excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material at no additional cost to the Government. Locations of stockpiles of satisfactory materials shall be subject to prior approval of the Contracting Officer.

3.2 BACKFILLING AND COMPACTION

Backfill material shall consist of select granular material as required. Backfill shall be placed in layers not exceeding six inches loose thickness for compaction by hand operated machine compactors, and eight inches loose thickness for other than hand operated machines, unless otherwise specified. For backfilling of trenches along roadways, each layer shall be compacted to 95 percent maximum density. For backfilling of trenches in cross-country installations, each layer shall be compacted to at least 95

percent maximum density for cohesionless soils, unless otherwise specified.

3.2.1 Placement of Bedding Material

Except where concrete encasement is required or ordered by the Contracting Officer or equalizing beds of sand, gravel or selected fill material of dimensions other than those shown on the drawings are ordered by the Contracting Officer, the bottom of the trench shall be carefully graded to provide for the depth of Class "B" bedding. Boulders and large stones shall be removed to provide a clearance off at least 150 millimeters on each side of the pipe and appurtenances. The space provided below the bottom of the pipe shall be filled with well-compacted granular material, in conformance with the Class "B" bedding.

3.2.2 Trench Backfill

Trenches shall be backfilled to the grade shown. The trench shall be backfilled to two feet above the top of pipe prior to performing the required pressure tests. The joints and couplings shall be left uncovered during the pressure test.

3.2.2.1 Replacement of Unyielding Material

Unyielding material removed from the bottom of the trench shall be replaced with select granular material.

3.2.2.2 Replacement of Unstable Material

Unstable material removed from the bottom of the trench or excavation shall be replaced with select granular material placed in layers not exceeding six inches loose thickness.

3.2.2.3 Initial Backfill

Initial backfill material shall be placed and compacted (as specified herein) with approved tampers to a height of at least one foot above the utility pipe or conduit. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe.

3.2.2.4 Final Backfill

The remainder of the trench, except for special materials for roadways, shall be filled with satisfactory material. Backfill material shall be placed and compacted as specified herein.

a. For roadways, backfill shall be placed up to finished grade in accordance with the requirements in Section 02331 LEVEE CONSTRUCTION, EXCAVATION, BACKFILL AND CONTROL OF WATER. Water flooding or jetting methods of compaction will not be permitted.

b. For sidewalks, turfed or seeded areas, and miscellaneous areas, backfill shall be deposited in layers of a maximum of 12-inch loose thickness, and compacted to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils. Compaction by water flooding or jetting will not be permitted. This requirement shall also apply to all other areas not specifically designated above.

3.2.3 Backfill for Appurtenances

After the manhole, catch-basin, inlet, or similar structure has been constructed and the concrete has been allowed to cure for seven days, backfill shall be placed in such a manner that the structure will not be damaged by the shock of falling soil. The backfill material shall be deposited and compacted as specified herein, and shall be brought up evenly on all sides of the structure to prevent eccentric loading and excessive stress.

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SECTION 02331

LEVEE CONSTRUCTION, EXCAVATION, BACKFILL AND CONTROL OF WATER

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 698	(1998) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2216	(1998) Laboratory Determination of Water (Moisture) Content of Soil, and Rock
ASTM D 2487	(2000) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1996) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4253	(1993; R 1996) Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D 4254	(1991; R 1996) Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
ASTM D 4318	(2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4643	(1993) Determination of Water (Moisture) Content of Soil by the Microwave Oven Method
ASTM D 5195	(1991; R 1996) Density of Soil and Rock In-Place Below the Surface by Nuclear Methods

U.S. ARMY CORPS OF ENGINEERS (USACE)

GEOTECHNICAL DATA REPORT	(2004) Geotechnical Data Report for St. Croix, U.S. Virgin Islands, Flood Control Channel and Bridges (Posted as Geodata.pdf)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Procedures; G|COR

The Contractor shall submit an operational plan setting forth the procedures and sequences he proposes to use for the excavation of the channel and the construction of the diversion levee at least 60 days before beginning construction. As a minimum, the plan shall include the following:

a. The vertical and horizontal alignment controls to be used to insure that the various features of the project are constructed as specified.

b. The equipment and procedures to be used in the excavation of the channel.

c. The equipment and procedures to be used for preparing the foundation prior to placement of the various materials.

d. The equipment to be used for placing, spreading, and compacting the fill material.

e. The proposed work schedule.

f. The supplement to the quality control plan setting forth the details of how the Contractor proposes to fulfill the quality control obligation described herein. The names of the individuals that will be assigned to this phase of the quality control program, along with their qualifications and responsibilities, shall be included in the submittal.

1.3 DEFINITIONS

1.3.1 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GW-GM, GP-GM, SW-SM, SP-SM, GM and SM will be identified as cohesionless only when the fines are non-plastic.

PART 2 PRODUCTS

2.1 CHANNEL EXCAVATION MATERIAL

See the GEOTECHNICAL DATA REPORT referenced above and in Section 01110 SUMMARY OF WORK.

2.2 LEVEE FILL MATERIAL

Material for use as levee fill shall be obtained from the excavation areas required under this contract.

2.2.1 Unsuitable Material

Organic materials (materials classified by the USCS as PT, OH or OL) and materials containing brush, sod, roots, logs, trash, rubbish, or other perishable debris shall be considered as unsuitable and shall not be used as levee fill. Unsuitable material also includes materials that contain particles of a size larger than 1/2 of the lift thickness of an individual lift placement. This excludes gravels which contain cobbles and boulders and clays, silts, and sands containing cobbles and boulders. The Contractor is expected to select materials from the required excavation material for levee construction that require a minimum of processing to remove oversize materials.

2.2.2 Suitable Material

All materials not considered unsuitable, as specified in paragraph "Unsuitable Material" above, shall be considered suitable and shall be used as levee fill.

PART 3 EXECUTION

3.1 DRAINAGE

3.1.1 Existing Drainage

The Contractor shall not block or restrict the flow in a natural drain, existing culvert, ditch, or channel, including the channel excavated under this contract, at any time without obtaining prior written approval from the Contracting Officer. This approval shall not relieve the Contractor from responsibility for any damage caused by his operation. If the Contractor should place excavated materials in any culvert, channel, ditch, or natural drain without prior approval, the materials shall be removed and the area shall be restored to its original condition, at no additional cost to the Government. The Contractor shall monitor the river flow, particularly during the rainy season, and provide sufficient free discharge area at all times so that conditions are not worsened by possible floods during construction

3.1.2 Disposal Area Drainage

The surfaces of all materials placed in the disposal area shall be sloped to drain freely at all times. Low areas in the disposal area shall be graded to drain. The grading shall be to the extent necessary to eliminate ponding of water within the limits of the disposal areas. Drainage of areas adjacent to disposal areas shall not be blocked or impaired by the Contractor's operations.

3.1.3 Control of Water

The contractor shall take whatever action is necessary to divert and/or convey non overbank stream flow through the work site. The Contractor shall construct all ditches, dikes, collectors, drains, and sumps that may be required to collect the water within the work area, regardless of its source (including groundwater seeping into the excavation), and shall provide and operate pumps and discharge lines adequate for disposing of the collected water at a point or points outside the work area. When any portion of the diversion, collection, and disposal system is no longer needed, it shall be removed.

3.2 EXCAVATION

3.2.1 General

Excavation consists of the removal, hauling, stock piling, and disposal of all materials encountered in all excavation areas shown on the drawings. Transitions in bottom width shall be uniform and constructed to the dimensions shown on the drawings. The excavated slopes and the channel bottom shall be left as smooth as skillful use of excavating equipment will permit. No excavation shall be performed outside the indicated rights of way. Excavation for elements of the channel on which concrete will be placed shall be performed in a manner that will not disturb the materials beneath the required lines and grades. Excavation shall be performed in a manner to provide proper drainage at all times and to permit recovery of the maximum amount of suitable material for use in levee fill.

3.2.2 Removal of Unsuitable Materials

If, at any point in the excavation for the structures, the foundation material below the lines indicated on the drawings is found to be unsuitable, as specified in paragraph LEVEE FILL MATERIAL above, it shall be removed to the depth directed by the Contracting Officer, replaced with suitable material, and compacted as specified in paragraph LEVEE CONSTRUCTION below.

3.2.3 Excavation Methods

Excavation may be accomplished by any method described in the approved construction plan specified in the paragraph SUBMITTALS above. All operations in connection with the excavation shall be performed in accordance with the approved construction plan.

3.2.4 Open Cut Excavation Slopes

The Government reserves the right to modify the slopes of all open cut excavation.

3.2.5 Overexcavation

Any overexcavation performed by the Contractor for any reason, except as ordered in writing by the Contracting Officer, shall be backfilled with suitable material and compacted, as specified in paragraph LEVEE CONSTRUCTION below, at no additional cost to the Government.

3.3 DISPOSAL OF EXCAVATED MATERIAL

3.3.1 Disposal

Suitable material from the excavation shall be stockpiled for use as levee fill. Unsuitable material and excess suitable material shall be placed in the disposal areas shown on the drawings. All disposed material shall be spread to a uniform thickness, shall be graded to drain, and shall have exterior slopes as specified below.

3.3.2 Floatage Removal

Floating debris resulting from the Contractor's operations shall be removed and disposed of as specified in Section 02231 CLEARING AND GRUBBING.

3.3.3 Temporary Stockpiling of Material

Material placed outside of the indicated limits of the disposal area for the operational convenience of the Contractor shall be removed and placed in the disposal areas prior to completion of this contract.

3.3.4 Disposal Area Slopes

Exterior disposal area slopes shall be no steeper than 1 vertical on 2.5 horizontal.

3.4 LEVEE CONSTRUCTION

3.4.1 General

Material shall be placed to the lines, grades, and cross sections shown on the drawings. Levee fill shall be maintained in a satisfactory condition until final completion and acceptance of all work under this section. Material which is lost or rendered unsuitable after placement due to causes that are considered avoidable or under the control of the Contractor shall be replaced in a satisfactory manner at no additional cost to the Government. Material placed outside the indicated right of way lines shall be removed at no additional cost to the Government.

3.4.2 Foundation Preparation

After clearing and grubbing has been completed and prior to placing any levee fill, the entire levee base shall be stripped of vegetation and organic topsoil to a depth of one (1) foot below the ground surface. After the stripping is completed, the entire levee base, except as specified below, shall be thoroughly broken to a depth of six (6) inches. Scarifying and breaking of the ground surface shall be done parallel to the centerline of the levee. Roots and other debris turned up in the process of loosening shall be removed. The top six (6) inches of the foundation areas that have been scarified shall be compacted to the density specified in subparagraph "Compaction" below. Scarifying or compacting of the foundation will not be required in inundated areas or where the softness of the ground surface would, in the opinion of the Contracting Officer, be impractical. In such areas, material shall be deposited on the levee base to a lift thickness that will support tracked equipment. The lift shall then be spread evenly and compacted to the extent practicable prior to placing the next lift.

3.4.3 Tie-In to Existing Levees

In areas where the levee construction ties in to previously constructed levees, the preparation of the embankment surface to be joined to shall be performed in accordance with subparagraph "Foundation Preparation" above to ensure an adequate bond.

3.4.4 Fill Placement

3.4.4.1 Dumping and Spreading

Fill material shall be dumped and spread in horizontal lifts for compaction. The fill material shall be thoroughly mixed during placement to provide a homogeneous, compact mass and shall be spread by bulldozers or other approved means. The distribution and gradation of materials shall be such that the fill material will be free from lumps, pockets, streaks, and layers of material differing substantially in texture and gradation from surrounding material. In order to obtain a thorough mixture of the materials, the Contractor shall disk or harrow the fill material as necessary. Impervious materials, such as lean clays (CL), clayey sands (SC), and clayey gravels (GC) shall be concentrated toward the channel sides to enhance the structural integrity of the levees.

3.4.4.2 Lift Thickness

Lifts shall not exceed 1 foot in thickness after compaction when coarser grained materials (gravels and sands) are being placed and 8 inches after compaction when finer grained silts, clays, and clayey sands are being placed. When hand tools are to be used for compaction, the lift thickness shall be no more than four inches thick.

3.4.4.3 Moisture Content

The moisture content of each lift shall be as uniform as practicable. If the material is too dry for proper compaction, the material shall be wetted uniformly and sufficiently to ensure proper compaction. If the material contains excessive moisture, aerating shall be performed as necessary to ensure proper compaction.

3.4.4.4 Compaction

When the moisture content and the condition of the layer are satisfactory, the lift shall be thoroughly compacted to 95 percent of the maximum density as determined by ASTM D 698. Material within four feet of any structure or in areas inaccessible to large equipment shall be compacted by means of a hand tamper, mechanical tamper, or other method approved by the Contracting Officer. The hand compacted fill shall be brought up at the same rate as the adjacent backfill. If the compacted surface of any lift is too smooth to bond properly with the succeeding lift, it shall be thoroughly roughened and loosened by harrowing or other approved means before the succeeding lift is placed. Material which fails to meet the required density when tested shall be reworked at the Contracting Officer's direction and then recompacted to obtain the required density. No separate payment will be made for reworking or recompacting material which fails to meet the specified density.

3.4.5 Quality Control Testing

The Contractor shall perform sufficient testing to ensure that the fill is

being constructed as specified in this section. All tests shall be performed by an independent, certified testing laboratory approved by the Government. The testing program specified below shall be considered the minimum acceptable frequency of testing. This does not relieve the Contractor from the responsibility of performing additional testing, if required, to ensure compliance with these specifications.

a. Soil Classification Tests

Soil classification tests shall be performed in accordance with ASTM D 2487. One initial classification test shall be required for each different classification of material to be utilized as embankment fill or backfill. As prescribed in ASTM D 2487, grain size analyses in accordance with ASTM D 422 and Atterberg limits in accordance with ASTM D 4318 shall be performed on each different classification. The Contractor shall submit additional tests for every 7,500 cubic yards of embankment or backfill material. Soil classification tests shall be performed on foundation material as required to determine the acceptability of the in-situ soils. Additional tests will be required if noticeable changes in the material occur.

b. Cohesive Material Testing

(1) Moisture Density Relationships. The moisture-density relations for each different classification of cohesive material utilized shall be determined in accordance with ASTM D 698. Prior to placing any fill material containing cohesive material, a minimum of (5) five-point standard compaction tests shall be performed on representative samples of the material to be used as fill. During fill placement, a minimum of one additional moisture-density test shall be performed for every 7,500 cubic yard placed. Additional tests will be required each time a new material is encountered. The moisture-density curves will be compiled to form a family of curves which will be utilized to estimate optimum properties (maximum dry density and optimum moisture content) to be used with field density test.

(2) Water (Moisture) Content Tests. Determination of water content shall be performed in accordance with ASTM D 2216. ASTM D 4643 may be used when rapid moisture content results are needed. All rapid results obtained by ASTM D 4643 shall be confirmed by a test on a duplicate sample performed in accordance with ASTM D 2216. In the event of disagreement between the results, ASTM D 2216 shall govern. Backfill and fills not meeting the required specifications for water content shall be retested after corrective measures have been applied.

(3) In-place Density Testing for Cohesive Materials. The in-place density of the cohesive materials shall be determined in accordance with ASTM D 1556, ASTM D 2922, or ASTM D 5195. At least one (1) in-place density test shall be performed on each lift of material or every 7,500 cubic yards of completed fill whichever is more frequent with the horizontal locations randomly staggered in the fill. For use with the family of curves to determine the optimum properties of the material a three-point compaction test shall be performed in conjunction with each in-place density. A portion of the soil from the in-place field density test and soil obtained immediately adjacent to the field

density test location shall be used for a three-point compaction test. The minus 3/4-inch portion of the soil shall be subjected to compactive effort using a 6-inch compaction mold in accordance with the procedures presented in ASTM D 698. Fill not meeting the required specifications for in-place density shall be retested after additional compaction has been completed. When nuclear method is used for in-place density testing according to ASTM D 2922 and ASTM D 3017, the first test and every tenth test thereafter for each material type shall include a sand cone correlation test in accordance with ASTM D 1556. The sand cone test shall be performed adjacent to the location of the nuclear test, shall include a nominal 6 inch diameter sand cone, and shall include a minimum wet soil weight of 6 pounds extracted from the hole. Nuclear density testing equipment shall not be used during rain. The density correlations shall be submitted with test results. Each transmittal including density test data shall include a summary of all density correlations for the job neatly prepared on a summary sheet including at a minimum:

(i) Meter serial number and operators initials.
(ii) Standard count for each test.
(iii) Material type.
(iv) Probe depth.
(v) Moisture content by each test method and the deviation.
(vi) Wet density by each test method and the deviation.

c. Cohesionless Material Testing

(1) Compaction Tests. The Contractor shall run not less than one relative density test for every 4,000 cubic yards of cohesionless fill in accordance with ASTM D 4253 and ASTM D 4254.

(2) In-Place Density Tests. The in-place density of the cohesionless materials shall be determined in accordance with ASTM D 1556, ASTM D 2922, or ASTM D 5195. The Contractor shall run not less than one (1) field in-place density test on each lift of material or every 7,500 cubic yards of completed embankment fill or backfill whichever is less. Horizontal locations shall be randomly staggered in the fill. When nuclear method is used for in-place density testing according to ASTM D 2922 and ASTM D 3017, the first test and every tenth test thereafter for each material type shall include a sand cone correlation test in accordance with ASTM D 1556. The sand cone test shall be performed adjacent to the location of the nuclear test, and shall include a nominal 6 inch diameter sand cone, and shall include a minimum wet soil weight of 6 pounds extracted from the hole. The density correlations shall be submitted with test results. Each transmittal including density test data shall include a summary of all density correlations for the job neatly prepared on a summary sheet including at a minimum:

(i) Meter serial number and operators initials.
(ii) Standard count for each test.
(iii) Material type.
(iv) Probe depth.
(v) Moisture content by each test method and the deviation.
(vi) Wet density by each test method and the deviation.

(3) Water (Moisture) Content Tests. Determination of water

content shall be performed in accordance with ASTM D 2216. ASTM D 4643 may be used when rapid moisture content results are needed. All rapid results obtained by ASTM D 4643 shall be confirmed by a test on a duplicate sample performed in accordance with ASTM D 2216. In the event of disagreement between the results, ASTM D 2216 shall govern. One water content test will be performed for each 13,000 cubic yards of material placed or each lift of material whichever is less. These test will be in addition to the water content tests performed in conjunction with in-place density tests. Backfill and fills not meeting the required specifications for water content shall be retested after corrective measures have been applied.

d. Additional Testing

The Contracting Officer may request additional tests if there is reason to doubt the adequacy of the compaction, or special compaction procedures are being used, or materials change or if the Contracting Officer determines that the Contractor's testing is inadequate or the Contractor is concentrating backfill and fill operations in a relatively small area.

3.4.6 Unsatisfactory Levee Construction

If any part of the levee is found to be constructed of unsuitable materials or if other faulty construction is evident, the Contractor shall cut out and remove the unsatisfactory portion of the levee and shall rebuild it in accordance with these specifications at no additional cost to the Government.

3.4.7 Dressing

The entire levee shall be brought to the required grade and cross section at all points. All surfaces shall be smooth and dressed. Rocks and boulders shall not project above the finished surfaces of the levees. The levee tops shall be sloped to drain away from the channel. After completion of all other work required under these specifications, the Contractor shall grade, drag, or otherwise work the levee crown to eliminate any ruts or depressions caused by settlement or equipment operations. All crown surfaces shall be left in such condition that they drain freely at all points.

3.4.8 Grade Tolerances

At all points along the levee top, a tolerance of six inches above indicated grade will be permitted in the final dressing, provided that any excess material is distributed so that the crown drains freely and that there are no abrupt bumps or depressions in the surface or bulges in the width of the crown. No points along the levee shall be below the required grade.

3.4.9 Access for Inspection

Grading of the top of the levee shall follow the placement of fill material as soon as practical. The surface shall be maintained in a condition that will permit the safe passage inspection vehicles until all work under this contract is complete.

3.5 PROTECTION AND MAINTENANCE

The work performed under this contract shall be protected and maintained from the time construction starts until all work has been completed and accepted. Protection and maintenance shall include mowing of vegetation, the removal of all shoals, and the complete repair of any erosion or damage to the work.

-- End of Section --

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SECTION 02371A

WIRE MESH GABIONS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 313/A 313M	(1998) Stainless Steel Spring Wire
ASTM A 370	(2002) Mechanical Testing of Steel Products
ASTM A 641/A 641M	(1998) Zinc-Coated (Galvanized) Carbon Steel Wire
ASTM A 764	(1995; R 2001) Metallic Coated Carbon Steel Wire, Coated at Size and Drawn to Size for Mechanical Springs
ASTM A 809	(1998) Aluminum-Coated (Aluminized) Carbon Steel Wire
ASTM A 853	(1993; R 1998)Steel Wire, Carbon, for General Use
ASTM A 856/A 856M	(1998) Zinc-5% Aluminum-Mischmetal Alloy-Coated Carbon Steel Wire
ASTM A 974	(1997) Welded Wire Fabric Gabions and Gabion Mattresses (Metallic Coated or Polyvinyl Chloride (PVC) Coated)
ASTM A 975	(1997) Double-Twisted Hexagonal Mesh Gabions and Revet Mattresses (Metallic-Coated Steel Wire or Metallic-Coated Steel Wire With Poly(Vinyl Chloride) (PVC) Coating)
ASTM B 117	(1997) Operating Salt Spray (Fog) Apparatus
ASTM C 127	(2001) Specific Gravity and Absorption of Coarse Aggregate
ASTM C 136	(2001) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 295	(1998) Petrographic Examination of Aggregates for Concrete

ASTM D 412	(1998a) Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastometers - Tension
ASTM D 638	(2001) Tensile Properties of Plastics
ASTM D 746	(1998) Brittleness Temperature of Plastics and Elastometers by Impact
ASTM D 792	(2000) Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 1242	(1995a) Resistance of Plastic Materials to Abrasion
ASTM D 1499	(1999) Filtered Open-Flame Carbon-Arc Exposures of Plastics
ASTM D 2240	(2002) Rubber Property - Durometer Hardness
ASTM D 4992	(1994el) Evaluation of Rock to be Used for Erosion Control
ASTM D 5312	(1992; R 1997) Evaluation of Durability of Rock for Erosion Control Under Freezing and Thawing Conditions
ASTM D 5313	(1992; R 1997) Evaluation of Durability of Rock for Erosion Control Under Wetting and Drying Conditions
ASTM G 152	(2000a) Operating Open Flame Carbon-Arc Light Apparatus for Exposure of Nonmetallic Materials

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 148	(1969) Method of Testing Stone for Expansive Breakdown on Soaking in Ethylene Glycol

1.2 GENERAL REQUIREMENTS

The work under this specification includes furnishing, assembling, filling and tying open wire mesh rectangular compartmented gabions and mattresses placed on a prepared surface of geotextile fabric, as specified, and in accordance with the lines, grades, and dimensions shown or otherwise established in the field. For ease of reference, the term "mattresses" will be used in this specification in place of "gabion mattresses", where the statement is of general nature, and is not specific to the double twisted or welded wire mesh products.

1.3 SUBMITTALS

Government approval is required for submittal with "G" designation;

submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-04 Samples

Gabion Stone; G|COR

Representative samples of the gabion stone to be used shall be submitted for testing by a Government approved laboratory located within the state of Florida prior to the delivery of any such material to the site. The source or sources from which the Contractor proposes to obtain the material shall be selected will in advance of the time when the material will be required. the stone samples shall be taken by a representative of the selected quarry under the supervision of the Contracting Officer. The samples shall consist of at least five pieces of stone, roughly cubical in shape and weighing not less than 75 pounds each, from each unit that will be used in the production of the required stone. Obtaining and delivering samples to the approved laboratory will be at the Contractor's expense.

SD-06 Test Reports

Stone Fill; G|EN

For the stone fill the Contractor proposed to use, the Contractor shall furnish the Contracting Officer, in duplicate, the test reports indicating that material delivered to the site meets requirements stated in this specification.

SD-07 Certificates

Gabions; G|COR

Gabions will be accepted on the basis of a manufacturer's certificate or affidavit signed by a legally-authorized official from the company manufacturing the basket units, that material contained within that shipment meets the composition, physical and manufacturing requirements stated in this specification.

1.4 DESCRIPTION

Gabions and matresses are wire mesh containers of variable sizes, uniformly partitioned into internal cells, interconnected with other similar units, and filled with stone at the project site to form flexible, permeable, monolithic structures. Gabions and mattresses shall be manufactured with all components mechanically connected at the production facility with the exception of the mattress lid which is produced separately from the base. The supply to the jobsite of unassembled individual wire mesh components (panels) forming gabions and mattresses will not be permitted. Definitions of terms specific to this specification and to all materials furnished on the jobsite, with the exception of the rock to fill the baskets and the filter material, shall refer and be in compliance with ASTM A 975 for double twisted wire mesh Gabions and Revet mattresses, or with ASTM A 974 for welded wire fabric Gabions and Gabion mattresses.

1.5 DEFINITIONS

1.5.1 Double twisted wire mesh Gabions and Mattresses

They are classified according to the wire coating, which is applied prior to manufacturing the mesh. Coating styles are as follows:

Style 1, consists of wire mesh made from wire which is zinc coated before being double twisted into mesh. Fasteners, lacing wire, and stiffeners are produced from zinc-coated wire;

Style 2, consists of wire mesh made from wire which is coated with Zn-5Al-MM before being double twisted into mesh. Fasteners, lacing wire, and stiffeners are also produced from Zn-5Al-MM coated wire;

Style 3, consists of wire mesh, lacing wire, and stiffeners as Style 1 and overcoated with PVC. Fasteners shall be of stainless steel wire;

Style 4, consists of wire mesh made from wire which is aluminum-coated before being double twisted into mesh. Fasteners, lacing wire, and stiffeners are also produced from aluminum-coated wire.

~~Style 1 for the wire coating is normally recommended for:~~

~~a. permanent gabion structures, for works installed in non-aggressive or non-polluted environments, and this condition remains unaltered over time;~~

~~b. temporary gabion structures, for works in moderately aggressive environments, depending on the minimum design life of the structure.~~

~~Style 2 for the wire coating is normally recommended for:~~

~~(1) permanent gabion structures, for works installed in moderately aggressive environments;~~

~~(2) temporary gabion structures, for works in aggressive environments, depending on the minimum design life of the structure.~~

~~Style 3 for the wire coating is normally recommended for both permanent and temporary gabion structures, for works installed in aggressive or polluted environments, or when the aggressiveness of the site is moderately unpredictable or variable from low to high.~~

~~Style 4 for the wire coating is very seldom used in the gabion industry. Its life expectancy shall be adequately documented to guarantee its consistency and reliability.~~

~~The determination of the rate of aggressiveness (non-aggressive, moderately, or highly aggressive) shall be made on a project-to-project basis, due to the many variables involved and the lack of criteria of general validity. It is normally recommended for the choice to be based on all the available data and on the experience of existing gabion structures in similar environments.~~

1.5.2 Welded Wire Fabric Gabions and Mattresses

They are classified according to wire coating styles as follows:

Style 1, consists of welded wire fabric made from wire which is zinc coated before being welded into fabric. Spiral binders, lacing wire, and stiffeners are produced from zinc-coated wire;

Style 2, consists of welded wire fabric which is made from uncoated wire and the fabric is subsequently zinc-coated after fabrication. Spiral binders, lacing wire, and stiffeners are produced from zinc-coated wire;

Style 3, consists of welded wire fabric made from wire which is coated with zinc-5% aluminum-mischmetal alloy (Zn-5Al-MM) before being welded into fabric. Spiral binders, lacing wire, and stiffeners are also produced from zinc-5% aluminum-mischmetal alloy (Zn-5Al-MM) coated wire;

Style 4, consists of welded wire fabric made from wire which is aluminum-coated before being welded into fabric. Spiral binders, lacing wire, and stiffeners are also produced from aluminum-coated (aluminized) wire;

Style 5, consists of welded wire fabric, spiral binders, lacing wire, and stiffeners as Styles 1, 2, 3, or 4, and overcoated with PVC.

~~Style 1 for the wire coating is normally recommended for temporary gabion structures, for works in non-aggressive or non-polluted environments;~~

~~Style 2 for the wire coating is normally recommended for permanent gabion structures, for works installed in non-aggressive or non-polluted environments, and this condition remains unchanged over time;~~

~~Style 3 for the wire coating is normally recommended for:~~

~~(1)permanent gabion structures, for works installed in moderately aggressive environments;~~

~~(2)temporary gabion structures, for works in aggressive environments, depending on the minimum design life of the structure.~~

~~Style 4 for the wire coating is very seldom used in the gabion industry. Its life expectancy shall be adequately documented to guarantee its consistency and reliability.~~

~~Style 5 for the wire coating is normally recommended for both permanent and temporary gabion structures, for works installed in aggressive or polluted environments, or when the aggressiveness of the site is moderately unpredictable or variable from low to high.~~

~~The determination of the rate of aggressiveness (non-aggressive, moderately, or highly aggressive) shall be made on a project-to-project basis, due to the many variables involved and the lack of criteria of~~

~~general validity. It is normally recommended for the choice to be based on all the available data and on the experience of existing gabion structures in similar environments.~~

PART 2 PRODUCTS

2.1 MATERIALS

The Contractor has the option to install double twisted wire mesh gabions and mattresses or welded wire fabric gabions and mattresses. The type of gabion selected must be used exclusively unless otherwise approved by the Contracting Officer.

2.1.1 Double twisted wire mesh Gabions and Mattresses

Double twisted wire mesh Gabions and mattresses shall be Style 3 and manufactured with a non-raveling mesh made by twisting continuous pairs of wires through three half turns (commonly called double twisted) to form a hexagonal-shaped opening. Gabion and mattress sizes, wire diameters, mesh opening sizes, and tolerances shall comply with the requirements of ASTM A 975 (Tables 1, 3, 4, 5, 6, and Sections 9). Gabions and mattresses shall meet the following test requirements:

Metallic coating - The coating weights shall conform to the requirements of ASTM A 641/A 641M, Class 3 (Style 1)

PVC for Coating - The PVC coating shall show no cracks or breaks after the wires are twisted in the fabrication of the mesh. The initial properties of PVC coating material shall have a demonstrated ability to conform to the following requirements:

a. Specific Gravity - In the range from 1.30 to 1.35 dN/dm3, when tested in accordance with test method ASTM D 792;

b. Tensile Strength - Not less than 2985 psi when tested in accordance with test method ASTM D 412;

c. Modulus of Elasticity - Not less than 2700 psi when tested in accordance with test method ASTM D 412;

d. Hardness - Shore "D" between 50 and 60, when tested in accordance with test method ASTM D 2240;

e. Brittleness Temperature - Not higher than 15 degrees F, or lower temperature when specified by the purchaser, when tested in accordance with test method ASTM D 746.

f. Resistance to Abrasion - The percentage of the weight loss shall be less than 12%, when tested in accordance with test method ASTM D 1242;

g. Salt Spray Exposure and Ultra Violet Light Exposure - The PVC shall show no effect after 3,000 h of salt spray exposure in accordance with ASTM B 117. The PVC shall show no effect of exposure to ultra violet light with test exposure of 3,000 h, using apparatus Spectral Irradiance of Open Flame Carbon Arc with Daylight Filters and 145 degrees F, when tested in accordance with practice ASTM D 1499 and ASTM G 152;

h. Evaluation of Coating After Salt Spray and Ultraviolet Exposure Test - After the salt spray test and exposure to ultraviolet light, the PVC coating shall not show cracks nor noticeable change of color, or blisters or splits. In addition, the specific gravity, tensile strength, hardness and resistance to abrasion shall not change more than 6%, 25%, and 10% respectively, from their initial values.

Wire Tensile Strength - The tensile strength of the wire used for the double twisted mesh, lacing wire, and stiffener, when tested in accordance with Test Methods and definitions ASTM A 370, shall be in accordance with the requirements of ASTM A 641/A 641M (Style 1) for soft temper wire.

Mesh strength and panel to panel joint strength - The minimum strength requirements of the mesh, selvedge wire to mesh connection, panel to panel connection, and punch test, when tested in accordance with ASTM A 975 Section 13.1, shall be as shown in Table 1. The strength values reported in lb/ft are referred to the unitary width of the specimen. The panel to panel test shall demonstrate the ability of the fastening system to achieve the required strength, and indicate the number of wire revolutions for the lacing wire or the ring spacing for ring fasteners used. The same number of wire revolutions or ring spacing shall be used in the field installation.

TABLE 1

Minimum Strength Requirements of Mesh and Connections

Test description	Gabions, PVC coated lb/ft	Gabion Mattress, PVC coated lb/ft
Tensile strength parallel to twist	2900	2300
Tensile strength perpendicular to twist	1400	900
Connection to selvedges	1200	700
Panel to panel (using lacing wire or ring fasteners	1200	700

Test description	Gabions, PVC coated lb	Gabion Mattress, PVC coated lb
Punch Test	5300	4000

2.1.2 Welded Wire Fabric Gabions and Mattresses

Welded wire fabric Gabions and mattresses shall be Style 5 manufactured with a welded wire mesh composed of a series of longitudinal and transverse steel wires arranged substantially at right angles to each other, and welded together at the points of intersection by electrical resistance welding to form fabricated sheets. Gabion and mattress sizes, wire diameters, mesh opening sizes, physical properties of the PVC for coating,

and tolerances shall comply with the requirements of ASTM A 974 (Tables 1, 2, 3, and Sections 9). Gabions and mattresses shall meet the following test requirements:

Metallic coating - The coating weights shall conform to the requirements of ASTM A 856/A 856M (Style 2).

PVC for Coating - PVC adhesion test shall be PVC coating shall show no cracks or breaks after the wires are twisted in the fabrication of the mesh. The initial properties of the PVC coating on the wire and welded wire fabric shall have a demonstrated ability to conform to the following requirements:

a. Adhesion - The PVC coating shall adhere to the wire such that the coating breaks rather than separates from the wire, in accordance with test method ASTM A 974 Section 13.3;

b. Mandrel bend - The PVC-coated wire when subjected to a single 360 bend at 0 degrees F around a mandrel ten times the diameter of the wire, shall not exhibit breaks or cracks in the PVC coating;

c. Specific Gravity - In the range from 1.20 to 1.40 dN/dm3, when tested in accordance with test method ASTM D 792;

d. Tensile Strength - Not less than 2275 psi when tested in accordance with test method ASTM D 638;

e. Modulus of Elasticity - Not less than 1980 psi at 100% strain, when tested in accordance with test method ASTM D 638;

f. Hardness - Shore "A" not less than 75, when tested in accordance with test method ASTM D 2240;

g. Brittleness Temperature - Not higher than 15 degrees F, or lower temperature when specified by the purchaser, when tested in accordance with test method ASTM D 746.

h. Resistance to Abrasion - The percentage of the weight loss shall be less than 12%, when tested in accordance with test method ASTM D 1242, method B, at 200 cycles, CSI-A abrader tape, 80 grit;

i. Salt Spray Exposure and Ultra Violet Light Exposure - The PVC shall show no effect after 3,000 h of salt spray exposure in accordance with ASTM B 117. The PVC shall show no effect of exposure to ultra violet light with test exposure of 3,000 h, using apparatus Spectral Irradiance of Open Flame Carbon Arc with Daylight Filters and 145 degrees F, when tested in accordance with practice ASTM D 1499 and ASTM G 152;

j. Evaluation of Coating After Salt Spray and Ultraviolet Exposure Test - After the salt spray test and exposure to ultraviolet light, the PVC coating shall not show cracks nor noticeable change of color, or blisters or splits. In addition, the specific gravity, tensile strength, hardness and resistance to abrasion shall not change more than 6%, 25%, and 10% respectively, from their initial values.

Wire Tensile strength - The tensile strength of the wire used for the welded wire fabric, spiral binders, lacing wire and stiffeners

shall be soft medium in accordance with ASTM A 641/A 641M (Style 1), ASTM A 856/A 856M (Style 3), and ASTM A 809 (Style 4) or hand drawn in accordance with ASTM A 853 (Style 2). The cross-sectional area of the test specimen shall be based on the diameter of the metallic coated wire. All the wires used in the fabrication of gabions and mattresses must use the same temper wire per given order.

Weld Shear Strength - The minimum average shear value in pounds-force shall be 70% of the breaking strength of the wire or as indicated in the table as follows, whichever is greater, when tested in accordance with ASTM A 974 Section 13.4. Typical minimum average shear strengths as specified are as follows:

TABLE 2

Minimum average shear strength values for the welded mesh

Wire Diameter inch	Min. Av. Shear Strength lbs	Min. Shear Strength lbs
0.087	292	225
0.106	472	360
0.120	584	450

The material shall be deemed to conform with the requirements for weld shear strength if the average of the test results of the first four specimens or if the average of the test results for all welds tested comply with TABLE 2.

Panel to Panel Joint Strength - The minimum strength of the joined panels, when tested as described in ASTM A 974 Section 13.5, shall be as follows:

TABLE 3

Panel to panel joint strength for welded gabions

Test Description	Gabions, Metallic coated lb/ft	Gabions, PVC coated lb/ft	(Revet mattresses metallic and PVC coated) lb/ft
Connection to selvedges	1400	1200	700
Panel to panel (using lacing wire or ring fasteners	1400	1200	700

The strength values reported in lb/ft are referred to the unitary width of the specimen. The panel to panel test shall demonstrate the ability of the fastening system to achieve the required strength, and indicate the number of wire revolutions for the lacing wire used. The same number of wire revolutions shall be used in the field installation.

2.1.3 Alternative Wire Fasteners for Gabions and Mattresses

Subject to approval of the Contracting Officer, alternative fastening systems may be used in lieu of lacing wire. Alternative fasteners to lacing wire recommended for woven wire gabions and mattresses, according to ASTM A 975, are steel ring fasteners for metallic coated gabions and mattresses, or stainless steel rings for PVC coated gabions and mattresses. Ring fasteners for woven wire gabions and mattresses shall comply with the minimum requirements indicated in paragaph Ring Fasteners below, and they shall develop a minimum panel to panel joint strength as indicated in TABLE 1. Alternative fasteners to lacing wire for welded wire gabions and mattresses, according to ASTM A 974, are spiral binders. Spiral binders for welded wire gabions and mattresses shall comply with the minimum requirements indicated in paragraph Spiral Binders below. Ring fasteners may alternatively be used for welded wire gabions or mattresses, provided that they comply with the minimum specified requirements (salt spray and pull-apart resistance). Connections panel to panel for welded gabions and mattresses with ring fasteners shall develop a minimum joint strength as indicated in TABLE 3. The Contractor shall provide a complete description of the fastener system and a description of a properly installed fastener, including drawings or photographs if necessary. The Contractor shall provide test results that demonstrate that the alternative-fastening system meets the requirements of the specifications, according to the following criteria:

a. That the proposed fastener system can consistently produce a panel to panel joint strength as indicated in the TABLE 1 for double twisted wire mesh gabions and TABLE 3 for welded wire mesh gabions;

b. That the proposed fastener system does not cause damage to the protective coating on the wire;

c. That the Contractor has the proper equipment and trained employees to correctly install the fasteners;

d. That proper installation can be readily verified by visual inspection.

Samples of wire fasteners with their certified test records shall be submitted at least 60 days in advance to the Contracting Officer for approval. The Government reserves the right to test additional samples to verify the submitted test records at the Government's expense. When the first test results indicate that the fasteners do not meet the specified requirements, the additional test will be at the Contractor's expense. The fasteners will be rejected after two tests failing to meet the requirements.

2.1.3.1 Ring Fasteners

The tensile strength of the zinc-coated steel wire, zinc-5% aluminum coated mischmetal alloy-coated steel wire and aluminum-coated steel wire used for fasteners shall be in accordance with the requirements of ASTM A 764, Type A, B, or C, Table 2 or Table 3. The tensile strength of stainless steel wire used for fasteners shall be in accordance with the requirements of ASTM A 313/A 313M, Type 302, Table 2. Any fastener system shall give the number of fasteners required to comply with TABLE 1, in accordance with ASTM A 975 (Section 13.1.2) for woven wire gabions and mattresses, and TABLE 3, in accordance with ASTM A 974 (Section 7.3), for welded wire gabions and mattresses. Ring fasteners shall not be installed more than 4

inches apart. Each fastener type shall be closed and the free ends of the fastener shall overlap a minimum of 1 inch. The manufacturer or supplier shall state the number of fasteners required for all vertical and horizontal connections for single and multiple basket joining. Approved ring fasteners including fasteners made of stainless steel shall be subject to the salt spray test and pull-apart resistance test and shall be documented by actual testing of panel to panel connections within the last year by validated laboratories.

a. Salt Spray Test - A set of two identical rectangular gabion panels, each with a width about 10-1/2 mesh openings along a selvedge wire, shall be joined by properly installed wire fasteners along the two selvedge wires so that each fastener confines two selvedge and two mesh wires. If the fasteners are also to be used to joint two individual empty gabion baskets, two additional selvedge wires which are each mechanically wrapped with mesh wires shall be included so that each fastener confines four selvedge and four mesh wires. The set of the jointed panels shall be subject to salt spray test, ASTM B 117, for a period of not less than 48 hours. At the end of the test, the fasteners, the selvedge, or mesh wires confined by the fasteners shall show no rusty spots on any part of the surface excluding the cut ends. A properly installed fastener shall meet the following requirements:

1). Each interlocking fastener shall be in a locked and closed position.

2). Each ring fastener shall be closed, and the free ends of the fastener shall overlap a minimum of 1 inch.

b. Pull-Apart Resistance Test - A new set of the jointed panels, which are prepared by the same method as specified in the salt spray test but without being subject to the 48-hour salt spray test, shall be mounted on a loading machine with grips or clamps such that the panels are uniformly secured along the full width. The grips or clamps shall be designed to transmit only tension forces. The load will then be applied at a uniform rate of 50 lbs/sec until failure occurs. The failure is defined as when the maximum load is reached and a drop of strength is observed with subsequent loading or the opening between any two closest selvedge wires, applicable to a fastener confining either two or four selvedge wires, becomes greater than 2 inches at any place along the panel width. The strength of the jointed panels at failure shall have a minimum as indicated in TABLE 1 or TABLE 3.

2.1.3.2 Spiral Binders

Spiral binders are defined as a length of metallic coated steel wire or metallic coated steel wire with PVC coating preformed into a spiral, used to assemble and interconnect empty gabion and/or mattress units, and to close and secure stone-filled units. Spiral binders shall be fabricated with the same wire and coating style as the wire mesh. Test requirements for spiral binders shall refer to TABLE 3 regarding Metallic Coating, PVC for coating, Tensile Strength, and Panel to Panel Joint Strength.

.2.1.4 Testing

Test records made within one year by certified laboratories and Government agencies will be used to determine the acceptability of the fastening system. Samples of wire fasteners and samples of material for fabricating the gabions and mattresses with their certified test records shall be submitted at least 60 days in advance to the Contracting Officer for

approval. The Government reserves the right to test additional samples to verify the submitted test records at the Government's expense. When the first test results indicate that the fasteners do not meet the specified requirements, the additional test will be at the Contractor's expense. The fasteners will be rejected after two tests failing to meet the requirements.

2.1.5 Stone Fill

2.1.5.1 General

For gabions and mattresses, the ability to function properly depends upon their stability, which is partly depending upon the rocks filling them. Rock sizes should be chosen to prevent them from falling through the mesh of the gabions. The rock has also to withstand natural weathering processes during the life of the project that would cause it to breakdown to sizes smaller than the wire mesh opening dimensions. Rock to fill the gabions and mattresses shall be durable and of suitable quality to ensure permanence in the structure and climate in which it is to be used.

a. Delivery. Rock shall be delivered to the work site in a manner to minimize its reduction in sizes (breakdown) during the handling of the rock, and be placed and secured within the assembled and interconnected gabion.

b. Sources. Stone shall be furnished from any source designated by the Contractor and accepted by the Contracting Officer, subject to the conditions herein stated. Satisfactory service records on other work may be used as an aid in determining whether or not the source selected can produce the stone specified herein. When considering a stone source on the basis of service records, stone of a similar size must have been placed in a similar thickness and exposed to weathering under similar conditions as are anticipated for this contract, and must have satisfactorily withstood such weathering for a minimum of 5 years.

c. Selection of Source. The Contractor shall designate in writing only one source or one combination of sources from which he proposes to furnish stone. It is the Contractor's responsibility to determine that the stone source or combination of sources selected is capable of providing the quality, quantities and gradation needed, and at the rate needed to maintain scheduled progress of work.

d. Acceptance of Materials. Acceptance of the stone materials will be based on the results of testing performed by the approved laboratory and other requirements stated herein. During the contract period, visual inspections and measurements of the stone materials may be performed by the Contracting Officer. If the Contracting Officer, during the inspections, finds that the stome quality, gradation or weights of stone furnished are not as specified or are questionable, re-sampling and re-testing by the Contractor shall be required. Sampling of the delivered stone for testing, and the manner in which testing is performed shall be as directed by the Contracting Officer. This additional sampling and testing shall be performed at the Contractor's expense when test results indicate that materials do not meet specified requirements. When test results indicate that materials meet specified requirements, an equitable adjustment in the contract price will be made for the additional sampling and testing.

Rejected material shall be removed and disposed of as specified herin at the Contractor's expense.

2.1.5.2 Stone Testing

Evaluation tests will be performed on the stone samples collected from the proposed source or sources selected to supply the stone. The tests include petrographic examination (ASTM C 295), unit weight, absorption (ASTM C 127), resistance of stone to freezing and thawing (ASTM D 5312), and if argillaceous limestone and sand stone are used, resistance to wetting and drying (ASTM D 5313).

a. Unit Weight and Absorption. Stone shall weigh not less than 160 pounds per cubic foot. The stone shall have an absorption less than 8 percent unless other tests and service records show that the stone is satisfactory. The test method for unit weight and absorption shall be in accordance with ASTM C 127, except the unit weight shall be caluculated in accordance with Note No. 5 using bulk specifica gravity, saturated surface dry.

b. Petrographic Examination. Stone shall be evaluated in accordance with ASTM C 295 which shall include information required by ASTM D 4992, Paragraph 10. The method in COE CRD-C 148 shall be used to perform Ethylene glycol tests required on rocks containing smectite as specified in ASTM D 4992 and on samples identified to contain swelling clays.

c. Resistance to Freezing and Thawing. Stone shall have a maximum loss of 10 percent after the number of cycles specified in ASTM D 5312, Figure 1, when determining the durability of stone subjected to freezing and thawing in accordance with the same standard.

d. Resistance of Rock to Wetting and Drying. Stone shall have a maximum loss of 1 percent when determing the durability of stone subject to wetting and drying in accordance with ASTM D 5313.

e. Tests. The tests stated above will be performed by the Government approved laboratory in accordance with applicable ASTM and Corps of Engineers methods given in the Handbook for Conrete and Cement. The cost of testing will be borne by the Government. Be aware that the required testing could take up to 90 days to perform. As a result, the Contractor shall coordinate the selection of stones to be tested with the Government as soon as possible to limit the potential for delats in stone placement due th subequent testing.

2.1.5.3 Gradation

Gradation of stone for the gabions and mattresses shall be performed every 1000 tons placed under this contract in accordance with ASTM C 136. Sizes of rock to fill gabions and mattresses are chosen on the basis of the mesh sizes, the structure's thickness, and within the limits shown in TABLE 4. Within each range of sizes, the rock shall be large enough to prevent individual pieces from passing through the mesh openings. Each range of sizes may allow for a variation of 5% oversize rock by weight, or 5% undersize rock by weight, or both.

a. Oversize Rock. In all cases, the sizes of any oversize rock

shall allow for the placement of ~~three~~ two or more layers of rock within each gabion compartment.

b. Undersize Rock. In all cases, undersize rock shall be placed within the interior of the gabion or mattress compartment and shall not be placed on the exposed surface of the structure. There shall be a maximum limit of 5% undersize or 5% oversize rock, or both, within each gabion ~~[~~or mattress~~]~~ compartment. The required rock gradation is reported in Table 4.

TABLE 4

Required rock gradation for gabions and mattresses

Type of structure	Thickness (height) inch	Rock ~~sizes~~ diameter inch
Mattresses	9	3 - 6
Gabions	12	4 - 8
Gabions	18	4 - 8
Gabions	36	4 - 8

2.1.6 Filter Material

Filter fabrics shall meet the provisions of Section 02378 GEOTEXTILES USED AS FILTERS.

PART 3 EXECUTION

3.1 MATERIAL DELIVERY

Gabions and mattresses shall be delivered with all components mechanically connected at the production facility with the exception of the mattress lid, which is produced separately from the base. All gabions and mattresses are supplied in the collapsed form, either folded or bundled or rolled, for shipping. Bundles are banded together at the factory for ease of shipping and handling.

a. Lacing wire shall be shipped in coils with a diameter of the coil approximately 2 feet. Fasteners shall be shipped in boxes. Preformed stiffeners shall be shipped in bundles.

b. Gabions and mattresses shall be delivered to the jobsite labeled in bundles. Labels shall show the dimensions of the gabions included, the number of pieces and the color code.

3.2 FOUNDATION PREPARATION

After excavation or stripping, to the extent indicated on the drawings or as directed by the Contracting Officer, all remaining loose or otherwise unsuitable materials shall be removed. All depressions shall be carefully backfilled to grade. If pervious materials are encountered in the foundation depressions, the areas shall be backfilled with free-draining materials. Otherwise, the depressions shall be backfilled with suitable materials from adjacent required excavation, or other approved source, and compacted to a density at least equal to that of the adjacent foundation. Any debris that will impede the proper installation and final appearance of the gabion layer shall also be removed, and the voids carefully backfilled

and compacted as specified above. Immediately prior to placing the material, the Contracting Officer shall inspect the prepared foundation surface, and no material shall be placed thereon until that area has been approved.

3.3 FILTER PLACEMENT

Filter fabric material shall be spread uniformly on the prepared foundation surface in a manner satisfactory to the Contracting Officer, and to the slopes, lines, and grades as indicated on the drawings or as directed.

3.4 ASSEMBLY

3.4.1 Double twisted wire mesh Gabions

The gabions shall be opened and unfolded one by one on a flat, hard surface. Gabion units over 6 foot in length usually have an extra shipping fold, which must be removed. The sides, ends and diaphragms shall be lifted up into a vertical position to form an open box shape. The back and the front panels of the gabion shall be connected to the end panels and center diaphragms. The top corner of the end panels and center diaphragms have a selvedge wire extending approximately 4 inches out from the corner edge. The end panels and the diaphragms shall be raised to a vertical position and the selvedge wire shall be wrapped around the edge wire of the top and back panels.

3.4.2 Double Twisted Wire Mesh Mattresses

The mattress shall be laid on a flat, hard surface. When the units are unfolded for assembly, depending on their length, they will have one or two shipping folds, which must be removed. The double flap of the side panel shall be folded in and wired to the diaphragm. At the corners, the end flaps shall be folded along the sides and the joint laced up. Each Revet mattress shall be assembled individually, by erecting the sides, ends and diaphragms, ensuring that all creases are in the correct position and the tops of all sides are level.

3.4.3 Welded wire fabric Gabions and Mattresses

The Gabions and mattresses shall be opened and unfolded on a flat, hard surface. The units shall be rotated into position and the edges joined with fasteners for assembly. Where spiral fasteners are used, the ends shall be crimped to secure them in place. Where lacing wire is used, the wire shall be wrapped with alternating double and single loops with spacings not to exceed 6 inches. Ends shall be secured with two complete revolutions and finished with a one-half hitch. The same fastening procedures shall be used to secure interior diaphragms and end panels. When two gabions are placed side by side, the two end panels may be connected along the vertical edges with a single spiral fastener.

3.5 LACING OPERATIONS

3.5.1 Double Twisted Wire Mesh Gabions and Mattresses

Either lacing wire or ring fasteners are permitted to lace double twisted wire mesh Gabions or mattresses.

a. When using lacing wire, a piece of wire 1.2 to 1.5 times the length of the edge to be laced shall be cut off. If the edge of

the basket is 3 foot long, no more than 4 to 5 feet of wire shoul be uses at a time to lace. For vertical joints, starting at the bottom end of the panel, the lacing wire shall be twisted and wrapped two times around the bottom selvedge and double and single loops shall be alternated through at intervals not bigger than 4 to 6 inches. The operation shall be finished by looping around the top selvedge wire. The use of pliers to assemble the units with lacing wire is normally recommended.

b. When steel wire ring fasteners are used, the rings shall be installed at the top and bottom connections of the end and center diaphragms. The ring spacing shall be based on the minimum pull apart strength as specified in TABLE 1. In any case, the maximum ring spacing along the edges shall not exceed 6 inches. The use of either a mechanical or a pneumatic fastening tool for steel wire ring fasteners is required. Ring fasteners shall be galvanized, stainless steel or Zn-5% aluminum-mischmetal alloy coated.

3.5.2 Welded Wire Mesh Gabions and Mattresses

Either lacing wire or spiral binders are permitted to lace welded wire mesh Gabions or mattresses. The empty units shall be placed on the foundation and interconnected with the adjacent unit along the top, bottom and vertical edges using spiral fasteners. Lacing wire may be used in lieu of spiral binders for the interconnection of gabions as specified above. The connection with lacing wire or spiral binders shall be based on the minimum panel to panel joint strength as specified in TABLE 3. Spiral binders shall be screwed along the connecting edges, and then each end crimped to secure the spiral in place. Each layer of gabions shall be interconnected to the underlying layer along the front, back and sides.

3.6 INSTALLATION AND FILLING

Empty gabion and mattress units shall be assembled individually and placed on the approved surface to the lines and grades as shown or as directed, with the sides, ends, and diaphragms erected in such a manner to ensure the correct position of all creases and that the tops of all sides are level. All gabion units shall be properly staggered horizontally and vertically. Finished gabion ~~[~~or mattress~~]~~ structures shall have no gaps along the perimeter of the contact surfaces between adjoining units. All adjoining empty gabion units shall be connected along the perimeter of their contact surfaces in order to obtain a monolithic structure. Gabions placed on top of gabion units already installed shall be connected to the lower gabion units along the perimeter of their contact surfaces. All lacing wire terminals shall be securely fastened. All joining shall be made through selvedge-to-selvedge or selvedge-to-edge wire connection; mesh-to-mesh or selvedge-to-mesh wire connection is prohibited except in the case where baskets are offset or stacked and selvedge-to-mesh or mesh-to-mesh wire connection would be necessary. As a minimum, a fastener shall be installed at each mesh opening at the location where mesh wire meets selvedge or edge wire.

a. The initial line of basket units shall be placed on the prepared filter fabric surface and adjoining empty baskets set to line and grade, and common sides with adjacent units thoroughly laced or fastened. They shall be placed in a manner to remove any kinks from the mesh and to a uniform alignment. The basket units then shall be partially filled to provide anchorage against deformation and displacement during the filling

operation. The stone shall be placed in the units as specified in paragraph Stone Fill, subparagraph Gradation, part b.

b. Undue deformation and bulging of the mesh shall be corrected prior to further stone filling. Care shall be taken, when placing the stone by hand or machine, to assure that the PVC coating on gabions will not be damaged. All visible faces shall be filled with some hand placement to ensure a neat and compact appearance and that the void ratio is kept to a minimum.

c. Gabions and mattresses shall be uniformly overfilled by about 1 to 2 inches to compensate for future rock settlements. Gabions can be filled by any kind of earth-filling equipment, such as a backhoe, gradall, crane, etc. The maximum height from which the stones may be dropped into the baskets shall be 3 to 4 feet.

3.6.1 Double twisted wire mesh Gabions

After the foundation has been prepared, the pre-assembled gabions shall be placed in their proper location to form the structure. Gabions shall be connected together and aligned before filling the baskets with rock. All connections (panel-to-panel) and basket-to-basket shall be already carried out as described in paragraph ASSEMBLY. Stone fill shall have a gradation of 4 to 8 inches, as described in paragraph Gradation, and shall be placed in ~~6-inch~~ two or more lifts. Cells shall be filled to a depth not exceeding 1 foot at a time. The fill layer should never be more than ~~6~~ 8 -inches higher than any adjoining cell. Stiffeners or internal cross ties shall be installed in all front and side of the gabions at 1/3 and 2/3 of the height for 3 feet or higher gabions, as the cell is being filled. Stiffeners shall be installed in the center of the cells. In 1.5 foot high units, stiffeners or internal crossties are not required. Internal cross ties, or alternatively the preformed stiffeners, shall be looped around three twisted wire mesh openings at each basket face and the wire terminals shall be securely twisted to prevent their loosening. The number of voids shall be minimized by using a well-graded stone in order to achieve a dense, compact stone fill. All corners shall be securely connected to the neighboring baskets of the same layer before filling the units. When more than one layer of gabions is required, in order for the individual units to become incorporated into one continuous structure, the next layer of gabions shall be connected to the layer underneath after this layer has been securely closed. Gabions shall be uniformly overfilled by about 1 to 2 inches to compensate for future rock settlements.

3.6.2 Double Twisted Wire Mesh Gabion Mattresses

After being assembled, the mattresses shall be placed in their proper location and securely attached to the adjacent units. For structural integrity, all adjoining empty units shall be connected by means of lacing wire or ring fasteners along the edges of their contact surfaces in order to form a monolithic structure. Mattresses shall be placed and securely connected while empty. The filling shall be done unit by unit; however, several units can be pre-assembled prior to filling the units. Mattress units shall be filled with hard, durable, clean stone having a gradation as indicated in paragraph Gradation. Care shall be taken to ensure that diaphragm tops are accessible for wiring. On slopes, the mattress shall be laid with the 6 foot dimension (width) longitudinally to the slope and progressing up the slope, except for small ditches or where otherwise specified in the project. When the installation is performed on a slope, the filling of the baskets shall start from the lower side of the bank. Where mattresses are to be placed on steep slopes (3H to 2V), the units

shall be secured by hardwood pegs driven into the ground just below the upper end panel, at 6 foot centers, or as specified in the project. When the mattress is to be placed over a geotextile, care shall be taken to ensure that any projecting ends of wire are bent upward to avoid puncturing or tearing the cloth. Lids shall be securely connected to the ends of the mattress and to the top sides and diaphragms using alternate double and single loops, or steel wire ring fasteners, as indicated in paragraph FOUNDATION PREPARATION. In case that more adjacent bases are to be covered at one time, mesh rolls shall be used in place of unit size lids. Mattresses shall be uniformly overfilled by about 1 to 2 inches to compensate for future rock settlements.

3.6.3 Welded Wire Fabric Gabions

After the foundation has been leveled, the assembled gabions shall be placed in their proper location to form the structure. Care shall be taken to ensure that the top of the diaphragms are aligned correctly. The diaphragms shall be securely connected by either spiral binders or lacing wire. Gabions shall be connected together and aligned before filling them with 4 to 8 inch diameter rocks. Rock filling material shall be as specified in paragraph Gradation and shall be placed in ~~6-inch~~ two or more lifts. The fill layer shall be carefully hand-packed and braced to prevent bulging. Care shall be taken to ensure the number of voids is minimized by using a well-graded stone and avoiding large rocks in order to achieve a dense, compact compartment. After each ~~6-inch~~ lift has been placed, it shall be leveled for the next lift. Almost all gabion structures consist of more than one course of gabions; in order that the individual gabions may become incorporated into one continuous structure, they shall be wired to neighboring gabions and the course below, before filling. Gabions shall be uniformly overfilled by about 1 to 2 inches to compensate for future rock settlements.

3.6.4 Welded Wire Fabric Gabion Mattresses

After being assembled, the mattresses shall be placed in their proper location and securely attached to the adjacent units. For structural integrity, all adjoining empty units shall be connected by means of lacing wire or spiral binders along the edges of their contact surfaces in order to form a monolithic structure. Gabion mattresses shall be placed and securely connected while empty. The filling shall be done unit by unit; however, it is recommended that several units be pre-assembled prior to filling the units. Gabion mattress units shall be filled with hard, durable, clean stone having a gradation as indicated in paragraph Gradation. Care shall be taken to ensure that diaphragm tops are accessible for wiring.

a. On slopes, the Gabion mattress shall be laid with the 6 foot dimension (width) longitudinal to the bank, with the exception of small ditches or when otherwise specified in project. When the installation is performed on a slope, the filling of the units shall start from the lower side of the bank. Where Gabion mattresses are to be placed on steep slopes (3H to 2V), the units shall be secured by galvanized pipes driven into the ground inside the upper end panel, at 6 foot centers, or as specified in the project.

b. When the mattress is to be placed over a geotextile, care shall be taken to ensure that any projecting ends of wire are bent upward to avoid puncturing or tearing the cloth.

c. Lids shall be securely connected to the ends of the mattress and to the sides and diaphragms using alternate double and single loops, or steel wire ring fasteners, as indicated in paragraph FOUNDATION PREPARATION. In case that more adjacent bases are to be covered at one time, mesh rolls can be used in place of unit size lids. Gabions mattresses shall be uniformly overfilled by about 1 to 2 inches to compensate for future rock settlements.

3.6.5 Non-rectangular and Custom Shapes

Gabion units can conform to bends up to a radius of curvature of 60 to 70 feet without alterations. Units shall be securely connected together first, and be placed to the required curvature, holding them in position by staking the units to the ground with hardwood pegs before filling. For other shapes, bevels and miters can be easily formed by cutting and folding the panels to the required angles. Where a complete gabion unit cannot be installed because of the required dimensions for placement, space limitations, and/or other geometrical constraints, the gabion unit shall be cut, folded, and wired together to suit the required placement. The mesh must be cleanly cut and the surplus mesh cut out completely, or folded back and neatly wired to an adjacent gabion face. The assembling, installation, shaping, filling, lid closing, and lacing of the reshaped gabion units shall be as specified herein.

3.7 CLOSING

Lids shall be tightly secured along all edges, ends and diaphragms in the same manner as described for assembling. Adjacent lids may be securely attached simultaneously. The panel edges shall be pulled to be connected using the appropriate closing tools where necessary. Single point leverage tools, such as crowbars, may damage the wire mesh and shall not be used. All end wires shall then be turned in.

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SECTION 02377A

CLAY BARRIER LAYER

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 698	(2000a) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1140	(2000) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))
ASTM D 2167	(1994; R 2001) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2216	(1998) Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D 2488	(2000) Description and Identification of Soils (Visual-Manual Procedure)
ASTM D 2922	(2001) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(2001) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	(2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 5084	(2000e1) Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Borrow Source Assessment; G|ED

Borrow Source Assessment Report at least 30 days prior to clay placement. No clay shall be placed until the Borrow Source Assessment Report is approved. The report shall include the following: location of each borrow source; plan view and estimated available quantity of clay; laboratory test results required for acceptance; moisture-density curves showing the "Acceptable Zone" of moisture contents and densities which achieve the required hydraulic conductivity for each principal type of material or combination of materials.

1.3 EQUIPMENT

Equipment used to place the clay barrier layer shall not brake suddenly, turn sharply, or be operated at speeds exceeding 5.0 miles per hour.

1.3.1 Compaction Equipment

Compaction equipment shall consist of tamping foot rollers which have a minimum weight of 40,000 pounds. At least one tamping foot shall be provided for each 110 square inches of drum surface. The length of each tamping foot, from the outside surface of the drum, shall be equal to or greater than the loose lift thickness. During compaction operations, the spaces between the tamping feet shall be maintained clear of materials which would impair the effectiveness of the tamping foot rollers.

1.3.2 Hand Operated Tampers

Hand operated tampers shall consist of rammers or other impact type equipment. Vibratory type equipment will not be allowed.

PART 2 PRODUCTS

2.1 CLAY

Clay shall be free of roots, debris, organic material, and shall have a maximum clod size of 2 inches at the time of compaction. Clay material shall comply with the criteria listed in Table 1.

TABLE 1
REQUIRED PHYSICAL PROPERTIES OF CLAY

Property	Test Value	Test Method
Max. particle size (inches)	1	ASTM D 422
Min. percent passing No. 4 sieve	80	ASTM D 422
Min. percent passing No. 200 sieve	50	ASTM D 1140
Min. liquid limit	35	ASTM D 4318
Min. plasticity index	10	ASTM D 4318
Max. plasticity index	40	ASTM D 4318

PART 3 EXECUTION

3.1 BORROW SOURCE ASSESSMENT

Borrow source assessment tests shall be performed on each principal type or combination of materials proposed for use in the clay barrier layer to assure compliance with specified requirements and to develop compaction requirements for placement. A minimum of one set of borrow assessment tests shall be performed for each borrow source proposed. A set of borrow source assessment tests shall consist of classification testing, moisture-density (compaction) testing, and hydraulic conductivity testing.

3.1.1 Classification Testing

At least 3 test pits shall be used to characterize each proposed borrow source. The test pits shall extend to the full depth of the proposed borrow source. Visual classification as described in ASTM D 2488 shall be performed over the full depth of each test pit by a qualified geologist or geotechnical engineer. Soils shall be grouped into "principal types" based on visual classification. Classification testing shall be performed on representative samples of each principal type or combination of materials. At a minimum, one set of classification tests shall be performed per 6500 cubic yards of proposed borrow. Classification testing shall consist of liquid and plastic limits in accordance with ASTM D 4318 and particle size analysis in accordance with ASTM D 422. Moisture content testing of proposed borrow shall be performed at a frequency of once per 2600 cubic yards in accordance with ASTM D 2216.

3.1.2 Compaction Testing

A representative sample from each principal type or combination of borrow materials shall be tested to establish compaction curves using ASTM D 698 and ASTM D 1557. A minimum of one set of compaction curves shall be developed per 6,500 cubic yards of each proposed borrow material. A minimum of 5 points shall be used to develop each compaction curve. The compaction curves for each principal type or combination of borrow materials shall be plotted on a single graph of dry density versus moisture content.

3.1.3 Hydraulic Conductivity Testing

A set of hydraulic conductivity tests shall be performed on representative samples of each principal type or combination of borrow materials. A minimum of one set of tests shall be performed per 6,500 cubic yards of

proposed borrow material. A set of tests shall consist of one hydraulic conductivity test run on a representative sample corresponding to each point from each compaction curve at or above ASTM D 1557 optimum moisture content. Hydraulic conductivity testing referenced in this section shall be conducted in accordance with ASTM D 5084. In addition, the following procedures shall be adhered to when performing the hydraulic conductivity testing:

a. Saturation of test specimens shall be verified by determination of the B coefficient. The B coefficient must be at least 0.95. The B coefficient is defined as the change in pore water pressure divided by the change in confining pressure.

b. During consolidation of the test specimens, outflow volumes versus time shall be recorded on a semi-log graph to confirm primary consolidation has been completed prior to permeation of the specimens.

c. The permeant used for back pressure saturation and permeation shall be 0.01 molar calcium chloride solution created from deaired, distilled water as specified in ASTM D 5084.

d. The average effective confining pressure shall be 7 psi.

3.1.4 Acceptable Zone Development

An "Acceptable Zone" of moisture contents and densities shall be developed and displayed with the compaction curve graphs for each principal type of borrow material or combination of borrow materials. The "Acceptable Zone" shall consist of moisture-density values that meet the following requirements:

a. Maximum Allowable Hydraulic Conductivity = 1 x 10 to the -7 cm per second.

b. The minimum allowable moisture content shall be no less than optimum moisture content based on ASTM D 1557.

c. The minimum allowable density shall be no less than 95 percent of maximum dry density based on ASTM D 698.

3.1.5 Commercial Testing Laboratory

Tests for the clay barrier layer shall be performed by an approved testing laboratory furnished by the Contractor. No testing will be permitted until the facilities have been approved.

3.2 INSTALLATION

3.2.1 Clay Placement

Clay shall be placed to the lines and grades shown on the drawings. The clay shall be placed in loose lifts not to exceed 6 inches in thickness. In areas where hand operated tampers must be used, the loose lift thickness shall not exceed 4 inches. Grade stakes shall not be driven into the clay layer.

3.2.2 Moisture Control

Clay shall be placed and compacted within the "Acceptable Zone" moisture content range in the approved Borrow Source Assessment Report. The moisture content shall be maintained uniform throughout each lift. Water added shall be thoroughly incorporated into the clay to ensure uniformity of moisture content prior to compaction.

3.2.3 Compaction

Clay shall be compacted to meet the density requirements in the approved Borrow Source Assessment Report and by at least 4 passes of the approved compaction equipment over all areas of each lift. For self-propelled compactors, one pass is defined as one pass of the entire vehicle. For towed rollers, one pass of the drum constitutes a pass. Hand operated tampers shall be used in areas where standard compaction equipment cannot be operated.

3.2.4 Repair of Voids

Voids created in the clay barrier layer during construction (including, but not limited to, penetrations for test samples and other penetrations necessary for construction) shall be repaired by removing sand or other non-clay material, placing clay backfill in lifts no thicker than 3 inches and tamping each lift with a steel rod. Each lift shall be tamped a minimum of 25 times altering the location of the rod within the void for each blow. Other ruts and depressions in the surface of the lifts shall be filled, and then compacted to grade.

3.3 CONSTRUCTION TOLERANCES

The top surface of the clay barrier layer shall be no greater than 3 inches above the lines and grades shown on the drawings. No minus tolerance will be permitted.

3.4 CONSTRUCTION TESTS

3.4.1 Clay Material Tests

During construction of the clay barrier layer, representative samples shall be taken for testing at the frequencies listed in Table 2 after a loose lift of clay has been placed. Test results shall meet the requirements listed in Table 1.

Note 1: At least one test shall be performed each day that soil is placed.
Note 2: Compaction test results shall be compared to previous results on the same material type to verify the compaction characteristics have remained the same.

TABLE 2
CLAY MATERIAL PROPERTIES

Property	Frequency	Test Method
Particle size analysis (Note 1)	1,000 cubic yards	ASTM D 422
Atterberg limits (Note 1)	1,000 cubic yards	ASTM D 4318

TABLE 2
CLAY MATERIAL PROPERTIES

Property	Frequency	Test Method
Compaction (Note 2)	6,500 cubic yards	ASTM D 698

Note 1: At least one test shall be performed each day that soil is placed.
Note 2: Compaction test results shall be compared to previous results on the same material type to verify the compaction characteristics have remained the same.

3.4.2 Moisture Content and Density Tests of In-Place Clay

Moisture content and density tests shall be performed in a grid pattern. The grid pattern shall be staggered for successive lifts so that sampling points are not at the same location in each lift. Moisture content and density tests shall be performed in accordance with Table 3.

TABLE 3
MOISTURE CONTENT AND DENSITY TESTS OF IN-PLACE CLAY

Property	Frequency Per Lift	Test Method
Rapid Moisture Content	8,500 square feet	ASTM D 3017
Standard Moisture Content	1 for every 10 rapid tests	ASTM D 2216
Rapid Density	8,500 square feet	ASTM D 2922
Standard Density	1 for every 20 rapid tests	ASTM D 1556 or ASTM D 2167

3.4.2.1 Rapid Tests

Each day that clay is compacted, a minimum of one set of moisture content and density tests shall be performed using standard procedures. Rapid tests shall be checked at the frequencies shown in Table 3. Standard tests shall be performed at locations which are as close as possible to the location of the rapid tests being checked.

3.4.2.2 Nuclear Density and Moisture Content Tests

Nuclear density readings shall be taken in the direct transmission mode. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as described in ASTM D 1556. ASTM D 2922 results in a wet unit weight of soil and when using this method ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall also be checked along with density calibration checks as described in ASTM D 3017; the calibration checks of both the density and moisture gauges shall be made at the beginning of a job on each different type of material encountered and

at intervals as directed by the Contracting Officer.

3.4.2.3 Test Results

The field moisture content and density test results shall be plotted on the "Acceptable Zone" plot that corresponds to the appropriate material type being tested. If test results are not within the "Acceptable Zone" for moisture content or density, 2 additional tests shall be performed near the location of the failed parameter. If all retests pass, no additional action shall be taken. If any of the retests fail, the lift of soil shall be repaired out to the limits defined by passing tests for that parameter. The area shall then be retested as directed. Repairs to the clay layer shall be documented including location and volume of soil affected, corrective action taken, and results of retests.

3.5 PROTECTION

3.5.1 Moisture Content

After placement, moisture content shall be maintained or adjusted to meet the acceptable zone criteria.

3.5.2 Erosion

Erosion that occurs in the clay layer shall be repaired and grades re-established.

3.5.3 Retests

Areas that have been repaired shall be retested as directed. Repairs to the clay layer shall be documented including location and volume of soil affected, corrective action taken, and results of retests.

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SECTION 02378A

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SECTION 02378A

GEOTEXTILES USED AS FILTERS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 123	(1996a) Standard Terminology Relating to Textiles
ASTM D 4355	(1992) Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
ASTM D 4491	(1999) Water Permeability of Geotextiles By Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1999) Determining Apparent Opening Size of a Geotextile
ASTM D 4833	(1988; R 1996) Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
ASTM D 4873	(1997) Identification, Storage, and Handling of Geosynthetic Rolls
ASTM D 4884	(1996) Strength of Sewn or Thermally Bonded Seams of Geotextiles

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-2-1601	(1991; Change 1-1994) Hydraulic Design of Flood Conttol Channels

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Certificates

Geotextile; G|ED

Submit duplicate copies of the mill certificate or affidavit signed by a legally authorized official from the company manufacturing the geotextile. The mill certificate or affidavit shall attest that the geotextile meets the chemical, physical and manufacturing requirements stated in this specification.

1.3 SHIPMENT, HANDLING, AND STORAGE

1.3.1 Shipment and Storage

Only approved geotextile rolls shall be delivered to the project site. All geotextile shall be labeled, shipped, stored, and handled in accordance with ASTM D 4873. No hooks, tongs, or other sharp instruments shall be used for handling geotextile.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Geotextile

2.1.1.1 General

The geotextile shall be a woven pervious sheet of plastic yarn as defined by ASTM D 123. The geotextile shall equal or exceed the minimum average roll values listed in TABLE 1, MINIMUM PHYSICAL REQUIREMENTS FOR DRAINAGE GEOTEXTILE. Strength values indicated in the table are for the weaker principal direction.

TABLE 1
MINIMUM PHYSICAL REQUIREMENTS FOR DRAINAGE GEOTEXTILE

PROPERTY	UNITS	ACCEPTABLE VALUES	TEST METHOD
GRAB STRENGTH	lb	180	ASTM D 4632
SEAM STRENGTH	lb	160	ASTM D 4632
PUNCTURE	lb	80	ASTM D 4833
TRAPEZOID TEAR	lb	50	ASTM D 4533
PERMEABILITY	cm/sec	0.0006	ASTM D 4491
APPARENT OPENING SIZE	U.S. SIEVE	70	ASTM D 4751
ULTRAVIOLET DEGRADATION	Percent	50 AT 500 Hrs	ASTM D 4355

2.1.1.2 Geotextile Fiber

Fibers used in the manufacturing of the geotextile shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of

polyolefins, polyesters, or polamides. Stabilizers and/or inhibitors shall be added to the base polymer if necessary to make the filaments resistant to deterioration caused by ultraviolet light and heat exposure. Reclaimed or recycled fibers or polymer shall not be added to the formulation. Geotextile shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including the edges. The edges of the geotextile shall be finished to prevent the outer fiber from pulling away from the geotextile.

2.1.2 Seams

The seams of the geotextile shall be sewn with thread of a material meeting the chemical requirements given above for geotextile yarn or shall be bonded by cementing or by heat. The sheets of geotextile shall be attached at the factory or another approved location, if necessary, to form sections not less than 12 feet wide. Seams shall be tested in accordance with method ASTM D 4884. The strength of the seam shall be not less than 90 percent of the required grab tensile strength of the unaged geotextile in any principal direction.

2.1.3 Securing Pins

The geotextile may be secured to the embankment or foundation soil by pins to prevent movement prior to placement of revetment materials. Other appropriate means to prevent movement such as staples, sand bags, and stone could also be used. Securing pins shall be inserted through both strips of overlapped geotextile along the line passing through midpoints of the overlap. Securing pins shall be removed as placement of revetment materials are placed to prevent tearing of geotextile or enlarging holes maximum spacing between securing pins depends on the steepness of the embankment slope. The maximum pins spacing shall be equal to or less than the values listed in TABLE 2, MAXIMUM SPACING FOR SECURING PINS. When windy conditions prevail at the construction site, the number of pins should be increased upon the demand of the Contracting Officer. Terminal ends of the geotextile shall be anchored with key trench or apron at crest, toe of the slope and upstream and downstream limits of installation.

TABLE 2
MAXIMUM SPACING FOR SECURING PINS

EMBANKMENT	SPACING, feet
STEEPER THAN 1V ON 3H	2
1V ON 3H TO 1V ON 4H	3
FLATTER THAN 1V ON 4H	5

2.2 INSPECTIONS, VERIFICATIONS, AND TESTING

2.2.1 Manufacturing and Sampling

Geotextiles and factory seams shall meet the requirements specified in TABLE 1, MINIMUM PHYSICAL REQUIREMENTS FOR DRAINAGE GEOTEXTILE.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

Surface on which the geotextile will be placed shall be prepared to a relatively smooth surface condition, in accordance with the applicable portion of this specification and shall be free from obstruction, debris, depressions, erosion feature, or vegetation. Any irregularities will be removed so as to insure continuous, intimate contact of the geotextile with all the surface. Any loose material, soft or low density pockets of material, will be removed; erosion features such as rills, gullies etc. must be graded out of the surface before geotextile placement.

3.2 INSTALLATION OF THE GEOTEXTILE

3.2.1 General

The geotextile shall be placed in the manner and at the locations shown. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage.

3.2.2 Placement

The geotextile shall be placed with the long dimension parallel to the centerline of the channel and laid smooth and free of tension, stress, folds, wrinkles, or creases. The strips shall be placed to provide a minimum width of 12 inches of overlap for each joint. Temporary pinning of the geotextile to help hold it in place until the gabions are placed shall be allowed. The temporary pins shall be removed as the gabions are placed to relieve high tensile stress which may occur during placement of material on the geotextile. Design protection of riprap should be in compliance with EM 1110-2-1601. Trimming shall be performed in such a manner that the geotextile shall not be damaged in any way.

3.3 PROTECTION

The geotextile shall be protected at all times during construction from contamination by surface runoff and any geotextile so contaminated shall be removed and replaced with uncontaminated geotextile. Any damage to the geotextile during its installation or during placement of the gabions shall be replaced by the Contractor at no cost to the Government. The work shall be scheduled so that the covering of the geotextile with a layer of the specified material is accomplished within 7 calendar days after placement of the geotextile. Failure to comply shall require replacement of geotextile. The geotextile shall be protected from damage prior to and during the placement of the gabion baskets. Before the gabions are placed, the Contractor shall demonstrate that the placement technique will not cause damage to the geotextile. In no case shall any type of equipment be allowed on the unprotected geotextile.

3.4 OVERLAPPING AND SEAMING

3.4.1 Overlapping

The overlap of geotextile rolls shall be 12 inches. Appropriate measures will be taken to insure required overlap exists after cushion placement.

3.4.2 Sewn Seams

High strength thread should be used such that seam test should conform to ASTM D 4884. The thread shall meet the chemical, ultraviolet, and physical requirements of the geotextile, and the color shall be different from that of the geotextile. The seam strength shall be equal to the strength required for the geotextile in the direction across the seam. Overlapping J-type seams are preferable over prayer-type seams as the overlapping geotextile reduces the chance of openings to occur at the seam. Double sewing shall be used specially for field seams to provide a safety factor against undetected missed stitches.

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SECTION 02510A

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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 36/A 36M	(1997ael) Carbon Structural Steel
ASTM A 53	(1999b) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM B 88	(1996) Seamless Copper Water Tube
ASTM D 1784	(1999a) Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
ASTM D 1785	(1999) Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D 2241	(1996b) Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
ASTM D 2464	(1999) Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D 2466	(1999) Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D 2467	(1999) Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D 2564	(1996a) Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
ASTM D 2855	(1996) Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings
ASTM D 3139	(1998) Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
ASTM F 477	(1999) Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F 1483	(1998) Oriented Poly(Vinyl Chloride),

	PVCO, Pressure Pipe

ASME INTERNATIONAL (ASME)

ASME B1.20.1	(1983; R 1992) Pipe Threads, General Purpose (Inch)
ASME B16.1	(1998) Cast Iron Pipe Flanges and Flanged Fittings
ASME B36.10M	(1996) Welded and Seamless Wrought Steel Pipe

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300	(1992) Hypochlorites
AWWA B301	(1992) Liquid Chlorine
AWWA C104	(1995) Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C105/A21.5	(1999) Polyethylene Encasement for Ductile Iron Pipe Systems
AWWA C110	(1993) Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (75 mm through 1200 mm), for Water and Other Liquids
AWWA C111	(1995) Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C115	(1996) Flanged Ductile-Iron Pipe With Ductile-Iron or Gray-Iron Threaded Flanges
AWWA C151	(1996) Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids
AWWA C153	(1994; Errata Nov 1996) Ductile-Iron Compact Fittings, 3 In. Through 24 In. (76 mm through 610 mm) and 54 In. through 64 In. (1,400 mm through 1,600 mm) for Water Service
AWWA C200	(1997) Steel Water Pipe - 6 In. (150 mm) and Larger
AWWA C203	(1997) Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot-Applied
AWWA C205	(1995) Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 In. (100 mm) and Larger - Shop Applied
AWWA C500	(1993; C500a) Metal-Sealed Gate Valves for Water Supply Service

AWWA C504	(1994) Rubber-Seated Butterfly Valves
AWWA C509	(1994; Addendum 1995) Resilient-Seated Gate Valves for Water Supply Service
AWWA C600	(1993) Installation of Ductile-Iron Water Mains and Their Appurtenances
AWWA C606	(1997) Grooved and Shouldered Joints
AWWA C651	(1992) Disinfecting Water Mains
AWWA C800	(1989) Underground Service Line Valves and Fittings
AWWA C900	(1997; C900a) Polyvinyl Chloride (PVC) Pressure Pipe, 4 In. Through 12 In., for Water Distribution
AWWA C905	(1997) Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14 In. Through 36 In.
AWWA C909	(1998) Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 IN through 12 IN (100 mm through 300 mm), for Water Distribution
AWWA M23	(1980) Manual: PVC Pipe - Design and Installation

ASBESTOS CEMENT PIPE PRODUCERS ASSOCIATION (ACPPA)

ACPPA 1344	(1988) Recommended Work Practices for A/C Pipe

DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA)

DIPRA TRD	(1997) Thrust Restraint Design for Ductile Iron Pipe

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-69	(2002) Pipe Hangers and Supports - Selection and Application
MSS SP-80	(1997) Bronze Gate, Globe, Angle and Check Valves

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 24	(1995) Installation of Private Fire Service Mains and Their Appurtenances
NFPA 49	(1994) Hazardous Chemicals Data
NFPA 325-1	(1994) Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids

NFPA 704	(1996) Identification of the Fire Hazards of Materials for Emergency Response

NSF INTERNATIONAL (NSF)

NSF 61	(1999) Drinking Water System Components - Health Effects (Sections 1-9)

1.2 PIPING

This section covers water supply lines, and connections to building service at a point approximately 5 feet outside buildings and structures to which service is required. The Contractor shall have a copy of the manufacturer's recommendations for each material or procedure to be utilized available at the construction site at all times.

1.2.1 Supply Lines 3 Inches or Larger

Piping for water supply lines 3 inches or larger shall be ductile iron, unless otherwise shown or specified.

1.2.2 Potable Water Lines

Piping and components of potable water systems which come in contact with the potable water shall conform to NSF 61.

1.2.3 Excavation, Trenching, and Backfilling

Excavation, trenching, and backfilling shall be in accordance with the applicable provisions of Section 02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS, except as modified herein.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Detailed Drawings; G|COR

Although the contract drawings show the general arrangement of relocations intended, the Contractor shall produce the final design of new work with respect to layout and required materials and submit detailed drawings for the new system. Drawings shall show dimensioned piping system layouts, including fittings and components, with the design coordinated with the utility company as necessary. Details are to include valve and valve box locations, loadings, design calculations and proposed support points. Drawing plans, elevations, views and details shall be drawn to scale. If the Contractor deems departures from the contract drawings necessary, details of such departures, including changes in related portions of the project and substantiating reasons, shall be submitted.

Relocation Work Plan; G|COR

Include the sequence of construction and plan for changeover of service.

SD-03 Product Data

Installation; G|COR.

The manufacturer's recommendations for each material or procedure to be utilized. Include manufacturer's standard drawings or catalog cuts for piping, pipe supports, valves, valve boxes, metal gratings and covers, and paint for pipe on bridge.

Waste Water Disposal Method; G|COR.

The method proposed for disposal of waste water from hydrostatic tests and disinfection, prior to performing hydrostatic tests.

Satisfactory Installation; G|COR.

A statement signed by the principal officer of the contracting firm stating that the installation is satisfactory and in accordance with the contract drawings and specifications, and the manufacturer's prescribed procedures and techniques, upon completion of the project and before final acceptance.

SD-06 Test Reports

Bacteriological Disinfection; G|COR.

Test results from commercial laboratory verifying disinfection.

1.4 HANDLING

Pipe and accessories shall be handled to ensure delivery to the trench in sound, undamaged condition, including no injury to the pipe coating or lining. If the coating or lining of any pipe or fitting is damaged, the repair shall be made by the Contractor in a satisfactory manner, at no additional cost to the Government. No other pipe or material shall be placed inside a pipe or fitting after the coating has been applied. Pipe shall be carried into position and not dragged. Use of pinch bars and tongs for aligning or turning pipe will be permitted only on the bare ends of the pipe. The interior of pipe and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method. Before installation, the pipe shall be inspected for defects. Material found to be defective before or after laying shall be replaced with sound material without additional expense to the Government. Rubber gaskets that are not to be installed immediately shall be stored in a cool and dark place.

1.4.1 Coated and Wrapped Steel Pipe

Coated and wrapped steel pipe shall be handled in conformance with AWWA C203.

1.4.2 Miscellaneous Plastic Pipe and Fittings

Polyvinyl Chloride (PVC) pipe and fittings shall be handled and stored in accordance with the manufacturer's recommendations. Storage facilities shall be classified and marked in accordance with NFPA 704, with classification as indicated in NFPA 49 and NFPA 325-1.

PART 2 PRODUCTS

2.1 PIPE

Water supply piping 3 inches or larger in diameter shall be ductile iron. Pipe shall conform to the respective specifications and other requirements specified below.

2.1.1 Plastic Pipe

2.1.1.1 PVC Plastic Pipe

Pipe, couplings and fittings shall be manufactured of material conforming to ASTM D 1784, Class 12454B.

a. Pipe Less Than 4 inch Diameter:

(1) Screw-Joint: Pipe shall conform to dimensional requirements of ASTM D 1785 Schedule 80, with joints meeting requirements of 150 psi working pressure, 200 psi hydrostatic test pressure, unless otherwise shown or specified. Pipe couplings when used, shall be tested as required by ASTM D 2464.

(2) Elastomeric-Gasket Joint: Pipe shall conform to dimensional requirements of ASTM D 1785 Schedule 40, with joints meeting the requirements of 150 psi working pressure, 200 psi hydrostatic test pressure, unless otherwise shown or specified, or it may be pipe conforming to requirements of ASTM D 2241, elastomeric joint, with the following applications:

SDR	Maximum Working Pressure psi	Minimum Hydrostatic Pressure psi
26	100	133
21	120	160
17	150	200
13.5	200	266

(3) Solvent Cement Joint: Pipe shall conform to dimensional requirements of ASTM D 1785 or ASTM D 2241 with joints meeting the requirements of 150 psi working pressure and 200 psi hydrostatic test pressure.

b. Pipe 4 through 12 inch Diameter: Pipe, couplings and fittings shall conform to AWWA C900, Class 150, CIOD pipe dimensions, elastomeric-gasket joint, unless otherwise shown or specified.

c. Pipe 14 through 36 inch Diameter: Pipe shall conform to AWWA C905 unless otherwise shown or specified.

2.1.1.2 Oriented Polyvinyl Chloride (PVCO) Plastic Pipe

Pipe, couplings, and fittings shall be manufactured of material conforming to ASTM D 1784, Class 12454-B. Pipe shall conform to AWWA C909, Class 150, and to ASTM F 1483 and shall have an outside diameter equal to cast iron outside diameter.

2.1.2 Ductile-Iron Pipe

Ductile-iron pipe shall conform to AWWA C151, working pressure not less than 150 psi, unless otherwise shown or specified. Pipe shall be cement-mortar lined in accordance with AWWA C104. Linings shall be standard. Pipe installed aboveground, attached to the new Highway 73 Bridge, shall be delivered with a factory-applied primer coating applied, and then top coated on site with a manufacturer-recommended paint system. Paint and color selection shall be coordinated with the Contracting Officer's Representative (COR). Pipe installed underground shall have a factory applied asphaltic coating, and have polyethylene encasement installed in accordance with AWWA C105/A21.5. The COR may waive the requirement for polyethylene encasement if the soil quality is determined to be non-corrosive per Appendix A of AWWA C105/A21.5, or after receiving a formal written request from the local water utility provider. Flanged ductile iron pipe with threaded flanges shall be in accordance with AWWA C115.

2.1.3 Steel Pipe

2.1.3.1 Pipe 3 Inches and Larger, Not Galvanized

Steel pipe, not galvanized, shall conform to AWWA C200 with dimensional requirements as given in ASME B36.10M for pipe 6 inches in diameter and larger, and ASTM A 53 for smaller sizes. Pipe shall be welded or seamless with plain or shouldered and grooved ends in accordance with AWWA C606 for use with mechanical couplings or bell-and-spigot ends with rubber gaskets. Bell-and-spigot ends for sizes less than 6 inches diameter shall be as required by AWWA C200. The minimum wall thickness of the various sizes of pipe shall be set for Schedule 40.

2.1.3.2 Galvanized Steel Pipe

Galvanized steel pipe shall conform to ASTM A 53, standard weight.

2.1.3.3 Protective Materials for Steel Pipe

Protective materials for steel pipe, except as otherwise specified, shall be mechanically applied in a factory or plant especially equipped for the purpose. The materials shall, unless otherwise indicated on the drawings, consist of one of the following for pipe 3 inches or larger, not galvanized:

a. Cement-mortar coating and lining shall conform to and shall be applied in conformance with AWWA C205. Cement-mortar coating and linings shall not be used for pipe less than 4 inches in diameter.

b. Coal-tar enamel lining, coating and wrapping shall conform to AWWA C203 for materials, method of application, tests and handling. Non-asbestos material shall be used for the outerwrap.

c. Cement-mortar lining, in lieu of coal-tar enamel lining, may be used with coal-tar enamel coating and wrapping. Cement-mortar

lining shall conform to and shall be applied in conformance with AWWA C205.

2.2 FITTINGS AND SPECIALS

2.2.1 PVC Pipe System

a. For pipe less than 4 inch diameter, fittings for threaded pipe shall conform to requirements of ASTM D 2464, threaded to conform to the requirements of ASME B1.20.1 for use with Schedule 80 pipe and fittings; fittings for solvent cement jointing shall conform to ASTM D 2466 or ASTM D 2467; and fittings for elastomeric-gasket joint pipe shall be iron conforming to AWWA C110 or AWWA C111. Iron fittings and specials shall be cement-mortar lined (standard thickness) in accordance with AWWA C104.

b. For pipe 4 inch diameter and larger, fittings and specials shall be iron, bell end in accordance with AWWA C110, 150 psi pressure rating unless otherwise shown or specified, except that profile of bell may have special dimensions as required by the pipe manufacturer; or fittings and specials may be of the same material as the pipe with elastomeric gaskets, all in conformance with AWWA C900. Iron fittings and specials shall be cement-mortar lined (standard thickness) in accordance with AWWA C104. Fittings shall be bell and spigot or plain end pipe, or as applicable. Ductile iron compact fittings shall be in accordance with AWWA C153.

2.2.2 Ductile-Iron Pipe System

Fittings and specials shall be suitable for 150 psi pressure rating, unless otherwise specified. Fittings and specials for mechanical joint pipe shall conform to AWWA C110. Fittings and specials for use with push-on joint pipe shall conform to AWWA C110 and AWWA C111. Fittings and specials for grooved and shouldered end pipe shall conform to AWWA C606. Fittings and specials shall be cement-mortar lined (standard thickness) in accordance with AWWA C104. Ductile iron compact fittings shall conform to AWWA C153.

2.3 JOINTS

2.3.1 Plastic Pipe Jointing

2.3.1.1 PVC Pipe

Joints, fittings, and couplings shall be as specified for PVC pipe. Joints connecting pipe of differing materials shall be made in accordance with the manufacturer's recommendations, and as approved by the Contracting Officer.

2.3.1.2 PVCO Pipe

Joints shall conform to ASTM D 3139. Elastomeric gaskets shall conform to ASTM F 477.

2.3.2 Ductile-Iron Pipe Jointing

a. Mechanical joints shall be of the stuffing box type and shall conform to AWWA C111.

b. Push-on joints shall conform to AWWA C111.

c. Rubber gaskets and lubricants shall conform to the applicable requirements of AWWA C111.

2.3.3 Isolation Joints

Isolation joints shall be installed between nonthreaded ferrous and nonferrous metallic pipe, fittings and valves. Isolation joints shall consist of a sandwich-type flange isolation gasket of the dielectric type, isolation washers, and isolation sleeves for flange bolts. Isolation gaskets shall be full faced with outside diameter equal to the flange outside diameter. Bolt isolation sleeves shall be full length. Units shall be of a shape to prevent metal-to-metal contact of dissimilar metallic piping elements.

a. Sleeve-type couplings shall be used for joining plain end pipe sections. The two couplings shall consist of one steel middle ring, two steel followers, two gaskets, and the necessary steel bolts and nuts to compress the gaskets.

b. Split-sleeve type couplings may be used in aboveground installations when approved in special situations and shall consist of gaskets and a housing in two or more sections with the necessary bolts and nuts.

2.4 VALVES

2.4.1 Check Valves

Check valves shall be designed for a minimum working pressure of 150 psi or as indicated. Valves shall have a clear waterway equal to the full nominal diameter of the valve. Valves shall open to permit flow when inlet pressure is greater than the discharge pressure, and shall close tightly to prevent return flow when discharge pressure exceeds inlet pressure. The size of the valve, working pressure, manufacturer's name, initials, or trademark shall be cast on the body of each valve. Valves 2 inches and larger shall be outside lever and spring type.

a. Valves 2 inches and smaller shall be all bronze designed for screwed fittings, and shall conform to MSS SP-80, Class 150, Types 3 and 4 as suitable for the application.

b. Valves larger than 2 inches shall be iron body, bronze mounted, shall have flanged ends, and shall be the non-slam type. Flanges shall be the Class 125 type conforming to ASME B16.1.

2.4.2 Gate Valves

Gate valves shall be designed for a working pressure of not less than 150 psi. Valve connections shall be as required for the piping in which they are installed. Valves shall have a clear waterway equal to the full nominal diameter of the valve, and shall be opened by turning counterclockwise. The operating nut or wheel shall have an arrow, cast in the metal, indicating the direction of opening.

a. Valves smaller than 3 inches shall be all bronze and shall conform to MSS SP-80, Type 1, Class 150.

b. Valves 3 inches and larger shall be iron body, bronze mounted, and shall conform to AWWA C500. Flanges shall not be buried. An

approved pit shall be provided for all flanged connections.

c. Resilient-Seated Gate Valves: For valves 3 to 12 inches in size, resilient-seated gate valves shall conform to AWWA C509.

2.4.3 Rubber-Seated Butterfly Valves

Rubber-seated butterfly valves shall conform to the performance requirements of AWWA C504. Wafer type valves conforming to the performance requirements of AWWA C504 in all respects, but not meeting laying length requirements will be acceptable if supplied and installed with a spacer providing the specified laying length. All tests required by AWWA C504 shall be met. Flanged-end valves shall be installed in an approved pit and provided with a union or sleeve-type coupling in the pit to permit removal. Mechanical-end valves 3 through 10 inches in diameter may be direct burial if provided with a suitable valve box, means for manual operation, and an adjacent pipe joint to facilitate valve removal. Valve operators shall restrict closing to a rate requiring approximately 60 seconds, from fully open to fully closed.

2.4.4 Pressure Reducing Valves

Pressure reducing valves shall maintain a constant downstream pressure regardless of fluctuations in demand. Valves shall be suitable for 150 psi operating pressure on the inlet side, with outlet pressure set for 50 psi. The valves shall be of the hydraulically-operated, pilot controlled, globe or angle type, and may be actuated either by diaphragm or piston. The pilot control shall be the diaphragm-operated, adjustable, spring-loaded type, designed to permit flow when controlling pressure exceeds the spring setting. Ends shall be flanged. Valve bodies shall be bronze, cast iron or cast steel with bronze trim. Valve stem shall be stainless steel. Valve discs and diaphragms shall be synthetic rubber. Valve seats shall be bronze. Pilot controls shall be bronze with stainless steel working parts.

2.4.5 Vacuum and Air Relief Valves

Vacuum and air relief valves shall be of the size shown and shall be of a type that will release air and prevent the formation of a vacuum. The valves shall automatically release air when the lines are being filled with water and shall admit air into the line when water is being withdrawn in excess of the inflow. Valves shall be iron body with bronze trim and stainless steel float.

2.4.6 Indicator Post for Valves

Each valve shown on the drawings with the designation "P.I.V." shall be equipped with indicator post conforming to the requirements of NFPA 24. Operation shall be by a wrench which shall be attached to each post.

2.5 VALVE BOXES

Valve boxes shall be cast iron or concrete, except that concrete boxes may be installed only in locations not subjected to vehicular traffic. Cast-iron boxes shall be extension type with slide-type adjustment and with flared base. The minimum thickness of metal shall be 3/16 inch. Concrete boxes shall be the standard product of a manufacturer of precast concrete equipment. The word "WATER" shall be cast in the cover. The box length shall adapt, without full extension, to the depth of cover required over the pipe at the valve location.

2.6 VALVE PITS

Valve pits shall be constructed at locations indicated or as required above and in accordance with the details shown. Concrete shall have compressive strength of 3000 psi in accordance with Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE.

2.7 MISCELLANEOUS ITEMS

2.7.1 Service Clamps

Service clamps shall have a pressure rating not less than that of the pipe to be connected and shall be either the single or double flattened strap type. Clamps shall have a galvanized malleable-iron body with cadmium plated straps and nuts. Clamps shall have a rubber gasket cemented to the body.

2.7.2 Corporation Stops

Corporation stops shall have standard corporation stop thread conforming to AWWA C800 on the inlet end, with flanged joints, compression pattern flared tube couplings, or wiped joints for connections to goosenecks.

2.7.3 Goosenecks

Copper tubing for gooseneck connections shall conform to the applicable requirements of ASTM B 88, Type K, annealed. Length of cable requirement connections shall be in accordance with standard practice.

2.7.4 Service Stops

Service stops shall be water-works inverted-ground-key type, oval or round flow way, tee handle, without drain. Pipe connections shall be suitable for the type of service pipe used. All parts shall be of bronze with female iron-pipe-size connections or compression-pattern flared tube couplings, and shall be designed for a hydrostatic test pressure not less than 200 psi.

2.7.5 Tapping Sleeves

Tapping sleeves for connection to existing main shall be the cast gray, ductile, or malleable iron, split-sleeve type with flanged or grooved outlet, and with bolts, follower rings and gaskets on each end of the sleeve. Construction shall be suitable for a maximum working pressure of 150 psi. Bolts shall have square heads and hexagonal nuts. Longitudinal gaskets and mechanical joints with gaskets shall be as recommended by the manufacturer of the sleeve. When using grooved mechanical tee, it shall consist of an upper housing with full locating collar for rigid positioning which engages a machine-cut hole in pipe, encasing an elastomeric gasket which conforms to the pipe outside diameter around the hole and a lower housing with positioning lugs, secured together during assembly by nuts and bolts as specified, pretorqued to 50 foot-pound.

2.7.6 Service Boxes

Service boxes shall be cast iron or concrete and shall be extension service boxes of the length required for the depth of the line, with either screw or slide-type adjustment. The boxes shall have housings of sufficient size

to completely cover the service stop or valve and shall be complete with identifying covers.

2.7.7 Disinfection

Chlorinating materials shall conform to the following:

Chlorine, Liquid: AWWA B301.

Hypochlorite, Calcium and Sodium: AWWA B300.

2.8 PIPE SUPPORTS

Pipe supports furnished for aboveground installation shall be factory galvanized and conform to MSS SP-69. The roller chair type pipe support indicated on the Highway 73 Bridge drawings shall require an axial roller rod bolt of sufficient length to accommodate attachment of the ends of an 1/8-inch thick factory galvanized metal retaining strap. Factory or pipe support manufacturer fabricated parts are recommended to assure compatible fit and finish. Taking Anvil International manufactured pipe supports as an example, a system using pipe roller PH-116 and the hanger strap from PH-31 could be put together. The Contractor shall coordinate these requirements and verify clearance to allow pipe movement on the roller with the retaining strap in place when selecting the pipe support/retainer system intended for installation.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Cutting of Pipe

Cutting of pipe shall be done in a neat and workmanlike manner without damage to the pipe. Unless otherwise recommended by the manufacturer and authorized by the Contracting Officer, cutting shall be done with an approved type mechanical cutter. Wheel cutter shall be used when practicable. Copper tubing shall be cut square and all burrs shall be removed. Squeeze type mechanical cutters shall not be used for ductile iron.

3.1.2 Adjacent Facilities

3.1.2.1 Sewer Lines

Where the location of the water pipe is not clearly defined in dimensions on the drawings, the water pipe shall not be laid closer horizontally than 10 feet from a sewer except where the bottom of the water pipe will be at least 12 inches above the top of the sewer pipe, in which case the water pipe shall not be laid closer horizontally than 6 feet from the sewer. Where water lines cross under gravity-flow sewer lines, the sewer pipe, for a distance of at least 10 feet each side of the crossing, shall be fully encased in concrete or shall be made of pressure pipe with no joint located within 3 feet horizontally of the crossing. Water lines shall in all cases cross above sewage force mains or inverted siphons and shall be not less than 2 feet above the sewer main. Joints in the sewer main, closer horizontally than 3 feet to the crossing, shall be encased in concrete.

3.1.2.2 Water Lines

Water lines shall not be laid in the same trench with sewer lines, gas lines, fuel lines, or electric wiring.

3.1.2.3 Copper Tubing Lines

Copper tubing shall not be installed in the same trench with ferrous piping materials.

3.1.2.4 Nonferrous Metallic Pipe

Where nonferrous metallic pipe, e.g. copper tubing, crosses any ferrous piping material, a minimum vertical separation of 12 inchesshall be maintained between pipes.

3.1.2.5 Casing Pipe

Water pipe shall be encased in a sleeve of rigid conduit for the lengths shown. Sleeves under railroads shall be in accordance with the railroad company requirements. Where sleeves are required, in all other cases, the pipe sleeve shall be Schedule 40 steel, manufactured in accordance with AWWA C200, ASTM A 36/A 36M. A minimum clearance of at least 2 inches between the inner wall of the sleeve and the maximum outside diameter of the sleeved pipe and joints shall be provided. Sand bedding or suitable pipe support shall be provided for the water pipe through the sleeve.

3.1.2.6 Structures

Where water pipe is required to be installed within 3 feet of existing structures, the water pipe shall be sleeved as required in Paragraph "Casing Pipe". The Contractor shall install the water pipe and sleeve ensuring that there will be no damage to the structures and no settlement or movement of foundations or footings.

3.1.3 Joint Deflection

3.1.3.1 Offset for Flexible Plastic Pipe

Maximum offset in alignment between adjacent pipe joints shall be as recommended by the manufacturer and approved by the Contracting Officer, but shall not exceed 5 degrees.

3.1.3.2 Allowable for Ductile-Iron Pipe

The maximum allowable deflection shall be as given in AWWA C600. If the alignment requires deflection in excess of the above limitations, special bends or a sufficient number of shorter lengths of pipe shall be furnished to provide angular deflections within the limit set forth.

3.1.4 Placing and Laying

Pipe and accessories shall be carefully lowered into the trench by means of derrick, ropes, belt slings, or other authorized equipment. Water-line materials shall not be dropped or dumped into the trench. Abrasion of the pipe coating shall be avoided. Except where necessary in making connections with other lines or as authorized by the Contracting Officer, pipe shall be laid with the bells facing in the direction of laying. The full length of each section of pipe shall rest solidly upon the pipe bed,

with recesses excavated to accommodate bells, couplings, and joints. Pipe that has the grade or joint disturbed after laying shall be taken up and relaid. Pipe shall not be laid in water or when trench conditions are unsuitable for the work. Water shall be kept out of the trench until joints are complete. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no trench water, earth, or other substance will enter the pipes or fittings. Where any part of the coating or lining is damaged, the repair shall be made by and at the Contractor's expense in a satisfactory manner. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored, as shown.

3.1.4.1 Plastic Pipe Installation

PVC pipe shall be installed in accordance with AWWA M23.

3.1.4.2 Piping Connections

Where connections are made between new work and existing mains, the connections shall be made by using specials and fittings to suit the actual conditions. When made under pressure, these connections shall be installed using standard methods as approved by the Contracting Officer. Connections to existing asbestos-cement pipe shall be made in accordance with ACPPA 1344.

3.1.4.3 Penetrations

Pipe passing through walls of valve pits and structures shall be provided with ductile-iron or Schedule 40 steel wall sleeves. Annular space between walls and sleeves shall be filled with rich cement mortar. Annular space between pipe and sleeves shall be filled with mastic.

3.1.4.4 Flanged Pipe

Flanged pipe shall only be installed above ground or with the flanges in valve pits.

3.1.5 Jointing

3.1.5.1 PVC Plastic Pipe Requirements

a. Pipe less than 4 inch diameter: Threaded joints shall be made by wrapping the male threads with approved thread tape or applying an approved lubricant, then threading the joining members together. The joint shall be tightened using strap wrenches to prevent damage to the pipe and/or fitting. To avoid excessive torque, joints shall be tightened no more than one thread past hand-tight. Preformed rubber-ring gaskets for elastomeric-gasket joints shall be made in accordance with ASTM F 477 and as specified. Pipe ends for push-on joints shall be beveled to facilitate assembly and marked to indicate when the pipe is fully seated. The gasket shall be prelubricated to prevent displacement. The gasket and ring groove in the bell or coupling shall match. The manufacturer of the pipe or fitting shall supply the elastomeric gasket. Couplings shall be provided with stops or centering rings to assure that the coupling is centered on the joint. Solvent cement joints shall use sockets conforming to ASTM D 2467. The solvent cement used shall meet the requirements of ASTM D 2564; the joint assembly shall be made in accordance with ASTM D 2855 and the manufacturer's specific recommendations.

b. Pipe 4 through 12 inch diameter: Joints shall be elastomeric gasket as specified in AWWA C900. Jointing procedure shall be as specified for pipe less than 4 inch diameter with configuration using elastomeric ring gasket.

c. Pipe 14 through 36 inch diameter: Joints shall be elastomeric gasket push-on joints made in accordance with AWWA M23.

3.1.5.2 Ductile-Iron Pipe Requirements

Mechanical and push-on type joints shall be installed in accordance with AWWA C600 for buried lines or AWWA C606 for grooved and shouldered pipe above ground or in pits.

3.1.5.3 Isolation Joints and Dielectric Fittings

Isolation joints and dielectric fittings shall be installed in accordance with details specified in paragraph JOINTS. Dielectric unions shall be encapsulated in a field-poured coal-tar covering, with at least 1/8 inch thickness of coal tar over all fitting surfaces.

3.1.5.4 Transition Fittings

Connections between different types of pipe and accessories shall be made with transition fittings approved by the Contracting Officer.

3.1.6 Setting of Valves and Valve Boxes

3.1.6.1 Location of Valves

After delivery, valves, including those in hydrants, shall be drained to prevent freezing and shall have the interiors cleaned of all foreign matter before installation. Stuffing boxes shall be tightened and hydrants and valves shall be fully opened and fully closed to ensure that all parts are in working condition. Check, pressure reducing, vacuum, and air relief valves shall be installed in valve pits. Valves and valve boxes shall be installed where shown or specified, and shall be set plumb. Valve boxes shall be centered on the valves. Boxes shall be installed over each outside gate valve unless otherwise shown. Where feasible, valves shall be located outside the area of roads and streets. Earth fill shall be tamped around each valve box or pit to a distance of 4 feet on all sides of the box, or the undisturbed trench face if less than 4 feet.

3.1.6.2 Location of Service Boxes

Where water lines are located below paved streets having curbs, the boxes shall be installed directly back of the curbs. Where no curbing exists, service boxes shall be installed in accessible locations, beyond the limits of street surfacing, walks and driveways.

3.1.7 Tapped Tees and Crosses

Tapped tees and crosses for future connections shall be installed where shown.

3.1.8 Thrust Restraint

Plugs, caps, tees and bends deflecting 11.25 degrees or more, either vertically or horizontally, on waterlines 4 inches in diameter or larger,

and fire hydrants shall be provided with thrust restraints. Valves shall be securely anchored or shall be provided with thrust restraints to prevent movement. Thrust restraints shall be either thrust blocks or, for ductile-iron pipes, restrained joints.

3.1.8.1 Thrust Blocks

Thrust blocking shall be concrete of a mix not leaner than: 1 cement, 2-1/2 sand, 5 gravel; and having a compressive strength of not less than 2,000 psi after 28 days. Blocking shall be placed between solid ground and the hydrant or fitting to be anchored. Unless otherwise indicated or directed, the base and thrust bearing sides of thrust blocks shall be poured directly against undisturbed earth. The sides of thrust blocks not subject to thrust may be poured against forms. The area of bearing shall be as shown or as directed. Blocking shall be placed so that the fitting joints will be accessible for repair. Steel rods and clamps, protected by galvanizing or by coating with bituminous paint, shall be used to anchor vertical down bends into gravity thrust blocks.

3.1.8.2 Restrained Joints

For ductile-iron pipe, restrained joints shall be designed by the Contractor or the pipe manufacturer in accordance with DIPRA TRD.

3.2 HYDROSTATIC TESTS

Where any section of a water line is provided with concrete thrust blocking for fittings or hydrants, the hydrostatic tests shall not be made until at least 5 days after installation of the concrete thrust blocking, unless otherwise approved.

3.2.1 Pressure Test

After the pipe is laid, the joints completed, fire hydrants permanently installed, and the trench partially backfilled leaving the joints exposed for examination, the newly laid piping or any valved section of piping shall, unless otherwise specified, be subjected for 1 hour to a hydrostatic pressure test of 200 psi. Water supply lines designated on the drawings shall be subjected for 1 hour to a hydrostatic pressure test of 200 psi. Each valve shall be opened and closed several times during the test. Exposed pipe, joints, fittings, hydrants, and valves shall be carefully examined during the partially open trench test. Joints showing visible leakage shall be replaced or remade as necessary. Cracked or defective pipe, joints, fittings, hydrants and valves discovered in consequence of this pressure test shall be removed and replaced with sound material, and the test shall be repeated until the test results are satisfactory. The requirement for the joints to remain exposed for the hydrostatic tests may be waived by the Contracting Officer when one or more of the following conditions is encountered:

a. Wet or unstable soil conditions in the trench.

b. Compliance would require maintaining barricades and walkways around and across an open trench in a heavily used area that would require continuous surveillance to assure safe conditions.

c. Maintaining the trench in an open condition would delay completion of the project.

The Contractor may request a waiver, setting forth in writing the reasons for the request and stating the alternative procedure proposed to comply with the required hydrostatic tests. Backfill placed prior to the tests shall be placed in accordance with the requirements of Section 02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS.

3.2.2 Leakage Test

Leakage test shall be conducted after the pressure tests have been satisfactorily completed. The duration of each leakage test shall be at least 2 hours, and during the test the water line shall be subjected to not less than 200 psi pressure. Water supply lines designated on the drawings shall be subjected to a pressure equal to 200 psi. Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved or approved section, necessary to maintain pressure within 5 psi of the specified leakage test pressure after the pipe has been filled with water and the air expelled. Piping installation will not be accepted if leakage exceeds the allowable leakage which is determined by the following formula:

L = 0.0001351ND(P raised to 0.5 power)

L = Allowable leakage in gallons per hour
N = Number of joints in the length of pipeline tested
D = Nominal diameter of the pipe in inches
P = Average test pressure during the leakage test, in psi gauge

Should any test of pipe disclose leakage greater than that calculated by the above formula, the defective joints shall be located and repaired until the leakage is within the specified allowance, without additional cost to the Government.

3.2.3 Time for Making Test

Except for joint material setting or where concrete thrust blocks necessitate a 5-day delay, pipelines jointed with rubber gaskets, mechanical or push-on joints, or couplings may be subjected to hydrostatic pressure, inspected, and tested for leakage at any time after partial completion of backfill. Cement-mortar lined pipe may be filled with water as recommended by the manufacturer before being subjected to the pressure test and subsequent leakage test.

3.2.4 Concurrent Hydrostatic Tests

The Contractor may elect to conduct the hydrostatic tests using either or both of the following procedures. Regardless of the sequence of tests employed, the results of pressure tests, leakage tests, and disinfection shall be as specified. Replacement, repair or retesting required shall be accomplished by the Contractor at no additional cost to the Government.

a. Pressure test and leakage test may be conducted concurrently.

b. Hydrostatic tests and disinfection may be conducted concurrently, using the water treated for disinfection to accomplish the hydrostatic tests. If water is lost when treated for disinfection and air is admitted to the unit being tested, or if any repair procedure results in contamination of the unit, disinfection shall be reaccomplished.

3.3 BACTERIAL DISINFECTION

3.3.1 Bacteriological Disinfection

Before acceptance of potable water operation, each unit of completed waterline shall be disinfected as prescribed by AWWA C651. After pressure tests have been made, the unit to be disinfected shall be thoroughly flushed with water until all entrained dirt and mud have been removed before introducing the chlorinating material. The chlorinating material shall be either liquid chlorine, calcium hypochlorite, or sodium hypochlorite, conforming to paragraph MISCELLANEOUS ITEMS. The chlorinating material shall provide a dosage of not less than 50 ppm and shall be introduced into the water lines in an approved manner. Polyvinyl Chloride (PVC) pipe lines shall be chlorinated using only the above specified chlorinating material in solution. The agent shall not be introduced into the line in a dry solid state. The treated water shall be retained in the pipe long enough to destroy all non-spore forming bacteria. Except where a shorter period is approved, the retention time shall be at least 24 hours and shall produce not less than 25 ppm of free chlorine residual throughout the line at the end of the retention period. Valves on the lines being disinfected shall be opened and closed several times during the contact period. The line shall then be flushed with clean water until the residual chlorine is reduced to less than 1.0 ppm. During the flushing period, each fire hydrant on the line shall be opened and closed several times. From several points in the unit, personnel from the Contractor's commercial laboratory shall take at least 3 water samples from different points, approved by the Contracting Officer, in proper sterilized containers and perform a bacterial examination in accordance with state approved methods. The commercial laboratory shall be certified by the approving authority for examination of potable water. The disinfection shall be repeated until tests indicate the absence of pollution for at least 2 full days. The unit will not be accepted until satisfactory bacteriological results have been obtained.

3.4 CLEANUP

Upon completion of the installation of water lines, and appurtenances, all debris and surplus materials resulting from the work shall be removed.

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SECTION 02740

PAVEMENT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T 180	(1997) Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and an 457 mm (18-in) Drop

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1559	(1989) Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
ASTM D 2726	(2000) Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixture

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FP-96	(1996) Standard Specifications for Construction Of Roads and Bridges on Federal Highway Projects (See Page iv for SI (Metric) to English Conversion Factors)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Waybills and Delivery Tickets; G|COR

Copies of waybills or delivery tickets, during the progress of the work.

SD-06 Test Reports

Tests; G|COR

Copies of test results, within 24 hours after completion of tests.

1.3 SAFETY PRECAUTIONS

No smoking, or open flames shall be permitted within 25 feetof heating, distributing, or transferring operations of cutback bituminous materials. When tar is used, a full-face, organic, vapor-type respirator and protective creams shall be used by personnel exposed to fumes.

1.4 WEATHER LIMITATIONS

Bituminous courses shall be constructed only when the surface is dry. The bituminous course shall not be constructed when the atmospheric or aggregate temperature is below 40 degrees F.

1.5 EQUIPMENT, PLANT, AND TOOLS

Equipment, plant, and tools used in the performance of the work shall be maintained in a satisfactory working condition at all times. The Contracting Officer shall have access at all times to the equipment and plant to insure proper operation and compliance with specifications.

1.5.1 Traveling-Plant Mixer

Traveling-plant mixer shall be self-propelled or tractor-drawn, and shall be capable of maintaining a uniform rate of travel. The plant shall be mounted on wheels or tread equipment of such type as will not overload or damage the subgrade or base course when the mixer is loaded to capacity. The device for picking up aggregates from windrows shall be such as will pick up only the windrowed aggregate, leaving the base clean. The pick-up and elevator shall be entirely enclosed to prevent the wind from removing the fine and filler aggregate. The equipment for proportioning the aggregate and bituminous material shall accurately measure the specified amounts of material for the mix while the machine is in operation, and shall be equipped with devices for accurately proportioning the filler added to the mixture. The plant shall be capable of thoroughly combining the aggregates and bituminous material into a uniform mixture, completely coating all particles of aggregate, and shall be capable of depositing the processed mixture on the base course.

1.5.2 Bituminous Distributor

Bituminous distributor shall have pneumatic tires of such width and number that the load produced on the base course will not exceed 650 pounds per inch of tire width. The distributor shall be so designed and equipped as to distribute the bituminous material uniformly at even heat on variable widths of surface at readily determined and controlled rates from 0.05 gallon to 2.0 gallons per square yard, with a specified rate not exceeding 5 percent. Distributor equipment shall include a separate power unit for the bitumen pump, fully circulating spray bars, a tachometer, pressure gauges, volume-measuring devices, a thermometer for reading the temperature of the tank contents, and a hose attachment suitable for applying bituminous material to spots missed by the distributor. The distributor shall be equipped for circulation and agitation of the bituminous material during the heating process. Heating equipment shall be capable of maintaining the bituminous material at the specified temperature.

1.5.3 Heating Equipment for Storage Tanks

Heating equipment for storage tanks shall maintain specified temperature but direct flame shall not be applied to walls of storage tank or transfer lines. An armored thermometer with a range from 150 to 400 degrees F shall be fixed to the tank so that the temperature of the bituminous material can be determined at all times.

1.5.4 Blade Graders

Blade graders for windrowing aggregate, for mixing, and for spreading processed material shall be self-powered. Each grader shall have a wheelbase not less than 17 feet, a blade not less than 12 feet long, and shall be equipped with pneumatic tires. Blade graders shall be adequately powered in order to perform the work properly and shall weigh at least 8 tons.

1.5.5 Power Rollers

Power rollers shall be steel-wheel or pneumatic-tired types conforming to the following requirements:

1.5.5.1 Steel-Wheel

Steel-wheel rollers shall be either tandem or three-wheel type weighing not less than 5 tons, and equipped with adjustable scrapers. The rollers which may be static or vibratory shall be equipped with watertanks and sprinkling apparatus that shall be used when necessary to keep the wheels wet to prevent adherence of the bituminous material to the wheels.

1.5.5.2 Pneumatic-Tired

Pneumatic-tired rollers shall be self-propelled and equipped with not less than 9 wheels mounted on 2 axles in such manner that the rear tires will not follow in the tracks of the forward group. The pneumatic-tired rollers shall also be equipped with suitable beams or platforms for ballast loading and shall be loaded to provide required compaction. The tires shall be uniformly inflated to not less than 45 psi.

1.5.6 Mechanical Spreaders

The equipment for spreading, shaping, and finishing shall consist of approved self-contained power machines capable of taking the bituminous mixture directly from the discharge end of traveling plant and spreading the mixture at the required application rate.

1.5.7 Tractors

Tractors shall be of the crawler type and shall be equipped with street plates or flat treads.

1.5.8 Miscellaneous Equipment

Disk, spike-tooth, or spring-tooth harrows, multiple-blade or retread mixers, small tools, and other equipment shall be the required types.

1.6 WAYBILLS AND DELIVERY TICKETS

Before the final statement is allowed, the Contractor shall file with the

Contracting Officer certified waybills and delivery tickets for all the bituminous and paving materials used in the construction covered by this section of specifications.

PART 2 PRODUCTS

2.1 MATERIALS

Aggregate base and asphaltic concrete materials shall conform to the requirements of the following and other appropriate sections of FP-96. Refer to Section 101 "Terms, Format and Definitions" of FP-96 for term and command verb definitions.

2.2 PAVEMENT

2.2.1 Untreated Aggregate Base Course

2.2.1.1 Gradation

Percentage	Sieve Size
100	2"
None	1-1/2"
50 to 80	1"
20 to 50	No. 4
None	No. 10
12	No. 200

2.2.1.2 Compaction

The base course shall be compacted in accordance with Section 301, "Untreated Aggregate Courses", of FP-96 or as shown on plans.

2.2.2 Hot Plant Bituminous Mix Surface Course

2.2.2.1 Gradation

Percentage	Sieve Size
100	3/4"
80 to 100	1/2"
70 to 90	3/8"
50 to 70	No. 4
35 to 50	No. 8
None	No. 16
18 to 29	No. 30
13 to 23	No. 50
7 to 15	No. 100
0 to 8	No. 200

2.2.2.2 Compaction

Use Marshall or Theoretical minimum of 1500 pounds. Compact each layer to at least 97 percent of the density of laboratory specimen obtained by the 50-blow Marshall Test Method or 90 percent of the calculated maximum density.

PART 3 EXECUTION

3.1 INSTALLATION

The paving equipment, weather limitations, job-mix formula, mixing, construction methods, compaction, finishing tolerance and protection shall conform to the requirements of the appropriate sections of FP-96 for the type of material specified.

3.2 SMOOTHNESS AND GRADE REQUIREMENTS

The finished surface of the base course after compaction shall not vary from that on the drawings by more than 1/2 inch when tested with a 10-foot straight edge in the longitudinal and transverse directions. The surface course, upon completion of final rolling, shall be smooth, free of roller marks and true to grade and cross section as shown on the drawings. When tested with a 10-foot straight edge, the surface shall not vary more than 3/16 inch in a longitudinal direction and not more than 1/4 inch in a transverse direction. No tolerance will be allowed which will pond water. Finished surfaces at junctures with other pavements shall coincide with finished surfaces of abutting pavements.

3.3 PAVEMENT THICKNESS TESTS

3.3.1 During Performance of Work

As the work progresses and before final acceptance, the Contractor will take a minimum of two cores per day for each finished course to check the thickness. These cores will be taken staggered and at intervals not in excess of 1,000 feet for each 2-lane roadway. The Contractor shall refill the holes at his expense with suitable material as directed by the Contracting Officer's Representative (COR).

3.3.2 Finished Courses

Thickness shall be withing the following tolerances:

(1) For surface courses less than 1 inch in compacted thickness, the final compacted thickness at all locations shall not be less than specified in the drawings.

(2) For surface courses 1 inch or more in thickness, no core shall be deficient by more than 1/4 inch and the average of all cores must not be less than the thickness specified in the drawings. For computing, the average thickness any core showing an excess in thickness of over 1/4 inch shall be taken as the plan thickness plus 1/4 inch.

(3) Base courses shall be checked in the same manner as surface course, except the tolerance shall be 3/8 inch.

3.4 PAVEMENT DENSITY TESTS

3.4.1 Test Requirements

Completed base and surface courses made of open, coarse of fine graded mixes with 1 inch maximum size aggregate shall have a minimum density of 90 percent of the theoretical maximum density or a minimum of not less than 95 percent of the density laboratory-compacted specimens of the same mix. The laboratory specimens shall be prepared and compacted in accordance with the

ASTM D 1559, and their density shall be determined by AASHTO T 180, Method D. and ASTM D 2726

3.4.2 Samples

Samples of the finished pavement shall be removed by the Contractor at his expense as directed by the COR. The sizes of the samples shall be suitable to determine conformance to density, thickness and other specified requirements. Tests will be performed by an approved commercial laboratory at the expense of the Contractor. The Contractor shall furnish an approved power saw or core drill and labor for cutting samples, and shall replace the pavement to the satisfaction of the COR.

3.4.3 Nuclear Density Test

Density may also be obtained using a nuclear density testing device if required by the COR.

3.5 PATCHING SAMPLED AREAS

rRplace the pavement where a sample has been removed to the satisfaction of the COR. Any areas of completed pavement that is damaged by subsequent construction, rainfall or other weather conditions shall be removed and patched with approved aggregate base and asphalt mixtures laid as specified herein at no additional cost to the Government

3.6 PROTECTION OF PAVEMENT

3.6.1 Base Course

The finished surface shall be rolled as necessary to maintain a smooth, even, uniform compacted base until any surface or treatment that may be provided for in the contract documents is placed.

3.6.2 Surface Course

No vehicular traffic of any kind will be permitted on the pavement less than six hours after final rolling, and until it has cooled and hardened.

3.7 FINAL CLEAN-UP

Remove all debris, rubbish and excess material from the area.

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SECTION 02821A

FENCING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 116	(2000) Metallic-Coated, Steel Woven Wire Fence Fabric
ASTM A 121	(1999) Zinc-Coated (Galvanized) Steel Barbed Wire
ASTM A 153/A 153M	(2001) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 392	(1996) Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 491	(1996) Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A 585	(1997) Aluminum-Coated Steel Barbed Wire
ASTM A 702	(1989; R 1994el) Steel Fence Posts and Assemblies, Hot Wrought
ASTM A 780	(2000) Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings
ASTM A 824	(1995) Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence
ASTM C 94/C 94M	(2000e2) Ready-Mixed Concrete
ASTM D 4541	(1995el) Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM F 1043	(2000) Strength and Protective Coatings on Metal Industrial Chain-Link Fence Framework
ASTM F 1083	(1997) Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F 1184	(1994) Industrial and Commercial Horizontal Slide Gates

ASTM F 626	(1996a) Fence Fittings
ASTM F 883	(1997) Padlocks
ASTM F 900	(1994) Industrial and Commercial Swing Gates
ASTM G 23	(1996) Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials
ASTM G 26	(1996) Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials
ASTM G 53	(1996) Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C1	(2000) All Timber Products - Preservative Treatment by Pressure Processes
AWPA C4	(1999) Poles - Preservative Treatment by Pressure Processes

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Certificates

Chain Link Fence; G|COR

Statement, signed by an official authorized to certify on behalf of the manufacturer, attesting that the chain link fence and component materials meet the specified requirements.

PART 2 PRODUCTS

2.1 FENCE FABRIC

Fence fabric shall conform to the following:

2.1.1 Chain Link Fence Fabric

ASTM A 392, Class 1, zinc-coated steel wire with minimum coating weight of 1.2 ounces of zinc per square foot of coated surface, or ASTM A 491, Type I, aluminum-coated steel wire. Fabric shall be fabricated of 9 gauge wire woven in 2 inch mesh. Fabric height shall be 7 feet as shown. Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage.

2.1.2 Woven Wire

Woven wire shall conform to ASTM A 116 No. 9 farm fence; grade, size as indicated.

2.2 GATES

ASTM F 900 and/or ASTM F 1184. Gate shall be the type and swing shown. Gate frames shall conform to strength and coating requirements of ASTM F 1083 for Group IA, steel pipe, with external coating Type A, nominal pipe size (NPS) 1-1/2. Gate frames shall conform to strength and coating requirements of ASTM F 1043, for Group IC, steel pipe with external coating Type A or Type B, nominal pipe size (NPS) 1-1/2. Gate fabric shall be as specified for chain link fabric. Gate leaves more than 8 feet wide shall have either intermediate members and diagonal truss rods or shall have tubular members as necessary to provide rigid construction, free from sag or twist. Gate leaves less than 8 feet wide shall have truss rods or intermediate braces. Intermediate braces shall be provided on all gate frames with an electro-mechanical lock. Gate fabric shall be attached to the gate frame by method standard with the manufacturer except that welding will not be permitted. Latches, hinges, stops, keepers, rollers, and other hardware items shall be furnished as required for the operation of the gate. Latches shall be arranged for padlocking so that the padlock will be accessible from both sides of the gate. Stops shall be provided for holding the gates in the open position. For high security applications, each end member of gate frames shall be extended sufficiently above the top member to carry three strands of barbed wire in horizontal alignment with barbed wire strands on the fence.

2.3 POSTS

2.3.1 Metal Posts for Chain Link Fence

ASTM F 1083, zinc-coated. Group IA, with external coating Type A steel pipe. Group IC steel pipe, zinc-coated with external coating Type A or Type B and Group II , roll-formed steel sections, shall meet the strength and coating requirements of ASTM F 1043. Group III, ASTM F 1043 steel H-section may be used for line posts in lieu of line post shapes specified for the other classes. Post shall be either Group IA steel pipe, Group IC, Group II, roll-formed steel sections, or Group III steel H-sections and shall be zinc coated (Type A) and polyvinyl chloride coated conforming to the requirements of ASTM F 1043. Sizes shall be as shown on the drawings. Line posts and terminal (corner, gate, and pull) posts selected shall be of the same designation throughout the fence. Gate post shall be for the gate type specified subject to the limitation specified in ASTM F 900 and/or ASTM F 1184.

2.3.2 Metal Posts for Farm Style Fence

Metal posts shall conform to ASTM A 702 zinc-coated, T-section; length as indicated. Accessories shall conform to ASTM A 702.

2.3.3 Composite Polyester Resin Reinforced Line Posts

Polyester resin reinforced line posts shall be produced from unsaturated polyester resin reinforced with E-glass. Posts shall be filled with an appropriate filler material to form a rigid structural support member. The post shall meet the strength requirements of ASTM F 1043 for heavy industrial fencing. Posts shall be protected from UV and moisture

degradation by a protective veil impregnated with resin (8 to 12 mil minimum) and an acrylic based (2 mil minimum) coating system. Posts shall exhibit corrosion and ultraviolet resistance as demonstrated when exposed to accelerated environmental test chamber for not less than 3,600 hours. The post shall show no structural failure (i.e., less than 10% loss of strength) as a result of exposure to moisture and lamps required in ASTM G 23, ASTM G 26 and ASTM G 53. Post coating system strength shall be tested in accordance with ASTM D 4541 for 90% adhesion strength. Posts shall be black in color. Provide outside diameter as specified in ASTM F 1043 for round steel pipe.

2.3.4 Wood Posts

Wood posts shall be cut from sound and solid trees free from short or reverse bends in more than one plane. Tops shall be convex rounded or inclined. Posts shall be free of ring shake, season cracks more than 1/4 inch wide, splits in the end, and unsound knots. Size and shape of posts shall be as indicated. Posts shall be treated in accordance with AWPA C1 or AWPA C4 as applicable.

2.4 BRACES AND RAILS

ASTM F 1083, zinc-coated, Group IA, steel pipe, size NPS 1-1/4. Group IC steel pipe, zinc-coated, shall meet the strength and coating requirements of ASTM F 1043. Braces and rails shall be Group IA, steel pipe, size NPS 1-1/4 or Group II,formed steel sections, size 1-21/32 inch and shall be zinc coated (Type A) and polyvinyl chloride-coated conforming to the requirements of ASTM F 1043. Group II, formed steel sections, size 1-21/32 inch, conforming to ASTM F 1043, may be used as braces and rails if Group II line posts are furnished.

2.5 WIRE

2.5.1 Tension Wire

Tension wire shall be Type I or Type II, Class 2 coating, in accordance with ASTM A 824.

2.5.2 Barbed Wire for Farm Style Fence

Barbed wire shall conform to ASTM A 121 zinc-coated, class 1, 13 gauge wire with 13-1/2 gauge 4-point barbs spaced no more than 6 inches apart.

2.6 ACCESSORIES

ASTM F 626. Ferrous accessories shall be zinc or aluminum coated. Truss rods shall be furnished for each terminal post. Truss rods shall be provided with turnbuckles or other equivalent provisions for adjustment. Barbed wire shall be 2 strand, 12-1/2 gauge wire, zinc-coated, Class 3 in accordance with ASTM A 121 or aluminum coated Type I in accordance with ASTM A 585. Barbed wire shall be four-point barbed type steel wire. Barbed wire support arms shall be the single arm type and of the design required for the post furnished. Tie wire for attaching fabric to rails, braces, and posts shall be 9 gauge steel wire and match the coating of the fence fabric. Tie wires for attaching fabric to tension wire on high security fences shall be 16 gage stainless steel. The tie wires shall be a double loop and 6.5 inches in length. Miscellaneous hardware coatings shall conform to ASTM A 153/A 153M unless modified.

2.7 CONCRETE

ASTM C 94/C 94M, using 3/4 inch maximum size aggregate, and having minimum compressive strength of 3000 psi at 28 days. Grout shall consist of one part portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

2.8 PADLOCKS

Padlocks shall conform to ASTM F 883, Type PO1, Option B, Grade 6, Size 1-3/4 inch. All padlocks shall be keyed alike.

2.9 GATE OPERATOR

Electric gate operators for sliding gates shall be as follows: Electrical gate operators shall have a right angle gearhead instantly reversing motor with magnetic drum-type brake, friction disc clutch, reversing starter with thermal overload protection, and a chain-driven geared rotary-type automatic limit switch. Gears shall consist of a hardened steel machine cut worm and mating bronze gear. All gears and bearings shall operate in a bath of oil. Gate operators with V-belt pulleys will not be allowed. Gate operators shall be equipped with an emergency release to allow the gate to be operated manually. The emergency release mechanism shall be capable of being locked in the engaged or disengaged position. Positive stops shall be provided on the gate tracks as a backup to the limit switches.

2.10 ELECTRO-MECHANICAL LOCKS

Electro-mechanical locking devices for sliding gates and personnel gates shall be solenoid actuated such that the deadbolt retracts when the solenoid is energized and remains electrically retracted until the gate is closed. The solenoid shall be the continuous duty type, rated for 120V ac, 60Hz operation. The locking device shall be unlockable by key and shall be keyed on both sides. Status of the electro-mechanical lock shall be monitored by two limit switches (integral to the locking device) wired in series. One switch shall monitor the deadlock lever and the other switch shall monitor the locking tongue.

PART 3 EXECUTION

3.1 INSTALLATION

Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared to the extent indicated. Line posts shall be spaced equidistant at intervals not exceeding 10 feet. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet. Any damage to galvanized surfaces, including welding, shall be repaired with paint containing zinc dust in accordance with ASTM A 780.

3.2 EXCAVATION

Post holes shall be cleared of loose material. Waste material shall be spread where directed. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain a [1] [2] inch clearance between the bottom of the fabric and finish grade.

3.3 POST INSTALLATION

3.3.1 Posts for Chain Link Fence

Posts shall be set plumb and in alignment. Except where solid rock is encountered, posts shall be set in concrete to the depth indicated on the drawings. Where solid rock is encountered with no overburden, posts shall be set to a minimum depth of 18 inches in rock. Where solid rock is covered with an overburden of soil or loose rock, posts shall be set to the minimum depth indicated on the drawing unless a penetration of 18 inches in solid rock is achieved before reaching the indicated depth, in which case depth of penetration shall terminate. All portions of posts set in rock shall be grouted. Portions of posts not set in rock shall be set in concrete from the rock to ground level. Posts set in concrete shall be set in holes not less than the diameter shown on the drawings. Diameters of holes in solid rock shall be at least 1 inch greater than the largest cross section of the post. Concrete and grout shall be thoroughly consolidated around each post, shall be free of voids and finished to form a dome. Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Group II line posts may be mechanically driven, for temporary fence construction only, if rock is not encountered. Driven posts shall be set to a minimum depth of 3 feet and shall be protected with drive caps when being set. For high security fences, fence post rigidity shall be tested by applying a 50 pound force on the post, perpendicular to the fabric, at 5 feet above ground; post movement measured at the point where the force is applied shall be less than or equal to 3/4 inch from the relaxed position; every tenth post shall be tested for rigidity; when a post fails this test, further tests on the next four posts on either side of the failed post shall be made; all failed posts shall be removed, replaced, and retested at the Contractor's expense.

3.3.2 Posts for Farm Style Fence

For wood posts, the Contractor shall excavate to depth indicated and brace post until backfill is completed. Backfill shall be placed in layers of 9 inches or less, moistened to optimum condition, and compacted with hand tampers or other approved method. Posts shall be set plumb and in proper alignment. Metal posts shall be driven or set in concrete as indicated.

3.4 RAILS

3.4.1 Top Rail

Top rail shall be supported at each post to form a continuous brace between terminal posts. Where required, sections of top rail shall be joined using sleeves or couplings that will allow expansion or contraction of the rail. Top rail, if required for high security fence, shall be installed as indicated on the drawings.

3.5 BRACES AND TRUSS RODS

Braces and truss rods shall be installed as indicated and in conformance with the standard practice for the fence furnished. Horizontal (compression) braces and diagonal truss (tension) rods shall be installed on fences over 6 feet in height. A center brace or 2 diagonal truss rods shall be installed on 12 foot fences. Braces and truss rods shall extend from terminal posts to line posts. Diagonal braces shall form an angle of approximately 40 to 50 degrees with the horizontal. No bracing is required on fences 6 feet high or less if a top rail is installed.

3.6 TENSION WIRES

Tension wires shall be installed along the top of the fence line and attached to the terminal posts of each stretch of the fence. Top tension wires shall be installed within the top 1 foot of the installed fabric. Tension wire shall be pulled taut and shall be free of sag.

3.7 CHAIN LINK FABRIC

Chain link fabric shall be installed on the side of the post indicated. Fabric shall be attached to terminal posts with stretcher bars and tension bands. Bands shall be spaced at approximately 15 inch intervals. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Fabric shall be fastened to line posts at approximately 15 inch intervals and fastened to all rails and tension wires at approximately 24 inch intervals. Fabric shall be cut by untwisting and removing pickets. Splicing shall be accomplished by weaving a single picket into the ends of the rolls to be joined. The bottom of the installed fabric shall be 1 plus or minus 1/2 inch above the ground. For high security fence, after the fabric installation is complete, the fabric shall be exercised by applying a 50 pound push-pull force at the center of the fabric between posts; the use of a 30 pound pull at the center of the panel shall cause fabric deflection of not more than 2-1/2 inches when pulling fabric from the post side of the fence; every second fence panel shall meet this requirement; all failed panels shall be resecured and retested at the Contractor's expense.

3.8 BARBED WIRE SUPPORTING ARMS AND BARBED WIRE

3.8.1 General Requirements

Barbed wire supporting arms and barbed wire shall be installed as indicated and as recommended by the manufacturer. Supporting arms shall be anchored to the posts in a manner to prevent easy removal with hand tools. Studs driven by an explosive-actuated tool shall not be used with gray iron or other material that can be fractured. A minimum of two studs per support arm shall be used. Barbed wire shall be pulled taut and attached to the arms with clips or other means that will prevent easy removal.

3.8.2 Barbed Wire for Farm Style Fence

Wire shall be installed on the side of the post indicated. Wire shall be pulled taut to provide a smooth uniform appearance, free from sag. Wire shall be fastened to line posts at approximately 15 inch intervals unless indicated otherwise.

3.9 GATE INSTALLATION

Gates shall be installed at the locations shown. Hinged gates shall be mounted to swing as indicated. Latches, stops, and keepers shall be installed as required. Slide gates shall be installed as recommended by the manufacturer. Padlocks shall be attached to gates or gate posts with chains. Hinge pins, and hardware shall be welded or otherwise secured to prevent removal. For farm style fencing, standard metal gate assemblies with frame and fittings necessary for complete installation or wood gates shall be furnished as shown.

3.10 GROUNDING

Fences shall be grounded on each side of all gates, at each corner, at the closest approach to each building located within 50 feet of the fence, and where the fence alignment changes more than 15 degrees. Grounding locations shall not exceed 650 feet. Each gate panel shall be bonded with a flexible bond strap to its gate post. Fences crossed by powerlines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150 feet on each side of crossing. Ground conductor shall consist of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4 inch by 10 foot long copper-clad steel rod. Electrodes shall be driven into the earth so that the top of the electrode is at least 6 inches below the grade. Where driving is impracticable, electrodes shall be buried a minimum of 12 inches deep and radially from the fence. The top of the electrode shall be not less than 2 feet or more than 8 feet from the fence. Ground conductor shall be clamped to the fence and electrodes with bronze grounding clamps to create electrical continuity between fence posts, fence fabric, and ground rods. After installation the total resistance of fence to ground shall not be greater than 25 ohms.

-- End of Section --