SOLICITATION NO. W912ES-04-B-0004

RECREATION

RED RIVER OF THE NORTH

GRAND FORKS, ND AND EAST GRAND FORKS, MN

SPECIFICATIONS FOR

PEDESTRIAN BRIDGES

June 2004

US Army Corps of Engineers

St. Paul District

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CONSTRUCTION PROJECT DOCUMENTS

RECREATION
RED RIVER OF THE NORTH
GRAND FORKS, ND AND EAST GRAND FORKS, MN

PEDESTRIAN BRIDGES

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SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. W912ES-04-B-0004	2. TYPE OF SOLICITATION [X] SEALED BID (IFB) [ ] NEGOTIATED *(RFP)*	3. DATE ISSUED 04-Jun-2004	PAGE OF PAGES 1 OF 153

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

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO. W81G67-3303-1650	6. PROJECT NO.

7. ISSUED BY CODE W912ES	8. ADDRESS OFFER TO *(If Other Than Item 7)* CODE
CONTRACTING DIVISION USACE - ST. PAUL 190 5TH STREET E ST. PAUL MN 55101 TEL:651-290-5419 FAX: 651-290-5706	**See Item 7** TEL: FAX:

9. FOR INFORMATION CALL:	A. NAME KEVIN P HENRICKS	B. TELEPHONE NO. *(Include area code)* *(NO COLLECT CALLS)* 651-290-5415

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):*

The project involves construction of 2 non-motorized pedestrian trail bridges between Grand Forks, ND and East Grand Forks, MN across the Red River. The bridges will connect the recreational trails of Grand Forks and East Grand Forks. Each bridge is approximately 400 feet in length. The contract work includes construction of the bridges, bridge approaches, and bituminous trail and trail tie-ins. Bridge construction will include piers and abutments with h-pile foundations. Other work included in the contract includes riprap placement, construction of trail overlook areas and landscaping along the trails.

This procurement is issued unrestricted under the Small Business Demonstration Program (Public Law 100-656). The North American Industrial Classification System (NAICS) is 237310 with a Small Business Size Standard of $28.5 million. The estimated order of magnitude of construction in terms of physical characteristics and price is between $1 million and $5 million.

11. The Contractor shall begin performance within 10 calendar days and complete it within 730 calendar days after receiving [ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable. *(See* 52.211-10 *.)*

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 0 copies to perform the work required are due at the place specified in Item 8 by 02:00 PM *(hour)* local time 20 Jul 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.

SOLICITATION, OFFER, AND AWARD (Continued)

(Construction, Alteration, or Repair)

OFFER ***(Must be fully completed by offeror)***

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*	15. TELEPHONE NO. *(Include area code)*
	16. REMITTANCE ADDRESS *(Include only if different than Item 14)* **See 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 number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS	SEE SCHEDULE OF PRICES

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**	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ☐ 41 U.S.C. 253(c)
26. ADMINISTERED BY CODE		27. PAYMENT WILL BE MADE BY: CODE

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, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or 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)* TEL: EMAIL:	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

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Section 00010 - Solicitation Contract Form

Bidding Schedule

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lump Sum		
	Bonds Includes bid, performance, and payment bonds.			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		1	Lump Sum		
	North Bridge			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1	Lump Sum		
	North Bridge Approaches			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004		1	Lump Sum		
	North Bridge Landscaping			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005		11,395	Linear Foot		
	North Bridge Steel H-Pile			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006		1	Lump Sum		
	North Bridge Approach Earthwork			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007		1	Lump Sum		
	South Bridge			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008	South Bridge Approaches	1	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009	South Bridge Landscaping	1	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010	South Bridge Steel H-Pile	11,435	Linear Foot	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011	South Bridge Approach Earthwork	1	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012	Dynamic Testing of Piles				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AA	First 8 Tests	8	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AB	Over 8 Tests	5	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013	Levee Closure & Road Raise	1	Lump Sum	_____.____	_____.____

Total for CLINs 0001 through 0013 _____

Option Item

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014		1	Lump Sum		
OPTION	South Bridge Recreational Trail Station 119+00 to 125+10.32				
				_____.____	_____.____

Total for all CLINs 0001 through 0014 _____

BID SCHEDULE NOTES

1. EFFECTIVE MAY 31, 1998, ALL CONTRACTORS MUST REGISTER WITH THE DEFENSE CENTRAL CONTRACTOR REGISTRATION (CCR) IN ORDER TO RECEIVE ANY CONTRACT AWARD. (Other than those made via the Government credit card program). Contractors may register on line at http://www.ccr.gov

2. FACSIMILE OF BIDS/PROPOSALS AND FACSIMILE OF MODIFICATIONS THERETO, WILL NOT BE ACCEPTED.

3. All Quantities are estimated except where unit is given as "EA" (EACH) or "LS" (LUMP SUM).

4. NOTICE TO LARGE BUSINESS: The U.S. Army Corps of Engineers, St. Paul District, is committed to the participation of Small Business, Small Disadvantaged Business and Women-Owned Small Business in the performance of work under this solicitation and resulting contract.

   Your attention is directed to the solicitation clauses 52.219-8 entitled "Utilization of Small Business Concerns", 52.219-9 I entitled "Small Business Subcontracting Plan," and 252.219-7003 entitled "Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DOD Contracts)".

   If you are a large business and the apparent low bidder with a bid exceeding $1,000,000.00, submission of a Subcontracting Plan in accordance with the above clauses will be required. The Contracting Officer will review the plan using the following goals to assure that it represents your best efforts to maximize subcontracting opportunities. Award will not be made until the Contracting Officer approves the Subcontracting Plan.

   The following subcontracting goals are informational only and not legally binding but are considered reasonable and achievable during the resulting contract from this solicitation. The goals expressed in percent of total planned subcontracting dollars are:

Small Business	57.2%
Small Disadvantaged Business	8.9%
Women-Owned Small Business	8.1%
HUBZone Small Business	3.0%
Service-Disabled Veteran-Owned Small Business	3.0%
Subcontract Reporting (SF 294 & SF 295)	100.0%

5. The apparent low bidder will be requested to provide the following information as soon as possible after bid opening:

   a. A Financial Statement, to include a balance sheet and income statement, and

   b. A Bank Certification of Financial Capability (line of credit).

   This information will be treated as confidential. The financial statements should be not over 60 days old. If over 60 days old, a certification should be attached stating that the financial condition of the firm is substantially the same or, if not the same, the changes that have taken place.

6. All extensions of the unit prices shown will be subject to verification by the Government. In case of a discrepancy between the unit price and the extension, the unit price will govern. For further information reference clause 52.214-5000 entitled “Arithmetic Discrepancies – EFARS” in Section 00800.

7. The original bid/proposal and any modifications must be complete as to all the items on the schedule. Award will be made to that bidder whose bid is most advantageous to the Government, based on price and the price related factors included in the solicitation.

8. Unbalanced Bids. The government may reject as non-responsive any bid that is materially unbalanced between contract line item numbers or sub-items on the bidding schedule. A bid is materially unbalanced when it is based on prices that are significantly less than cost for some work and significantly more than cost for other work. A materially unbalanced bid may be rejected if the Contracting Officer has a reasonable doubt as to whether the bid will result in the lowest overall cost to the government even though it may be the low evaluated bid. Additionally, a bid that is unbalanced so as to be tantamount to an advance payment will be rejected as non-responsive even if acceptance of the bid would result in the lowest overall cost to the government. Reference is made to paragraph (d) of clause 52.214-19, "Contract Award – Sealed Bidding – Construction."

9. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing in accordance with Section 00100, Contract Clause 52.214-6 entitled "Explanation To Prospective Bidders," not later than 10 days prior to bid opening. Questions can be faxed to (651) 290-5706, attention to F. Mitchell. Questions received after the deadline may or may not be answered prior to bid submittal.

10. Funding for this contract is contingent upon the conditions stated in Section 00800, Clause No. 52.232-5001, Continuing Contracts.

11. The addresses, phone numbers, and Internet address (if available) for references cited in these specifications are listed in the Unified Facilities Guide Specification (UFGS) 01420 USACE SOURCES FOR REFERENCE PUBLICATIONS. UFGS 01420 is available on the TECHINFO page of the Corps of Engineers Huntsville District Internet site at: www.hnd.usace.army.mil/techinfo.

12. Any forthcoming amendments will only be available on this website: www.mvp.usace.army.mil. E-mail notifications will be sent upon issuance of any amendments to all registered firms. Given that e-mail message notifications may not be reliable, it is recommended that each registered firm check this web site periodically for updates. A paper hard copy of each amendment will not be mailed unless specifically requested in writing.

13. Bid Bonds

a. It is the responsibility of the bidder to include an acceptable bid guarantee with their bid. This bid note does not provide bidders with an all-inclusive checklist for submitting an acceptable bid bond – rather, it provides some "lessons learned" information as to the unacceptability of photocopied bid bonds.

b. This solicitation requires bidders to submit a bid guarantee along with their bids (see clause 52.228-1). One acceptable form of bid guarantee is a bid bond. For a bid to be responsive, the bid bond accompanying the bid must unequivocally bind the bonding company – if it does not, the bid must be rejected as non-responsive. Please note that a non-responsive bid may not be corrected after bid opening to make it responsive – it must be rejected. The Contracting Officer has the authority and responsibility to determine whether the bid bond and its accompanying documentation clearly show that the person(s) executing the bid bond on behalf of the surety have the authority to unequivocally bind the bonding company. In order for a bid bond to be acceptable, it must be accompanied by a valid power-of-attorney issued by the surety (the bonding company, not the insurance agency writing the bond).

c. Photocopied or faxed powers-of-attorney are not acceptable. In order for a power-of-attorney accompanying a bid bond to be acceptable, it must be: (i) an original power-of-attorney (containing all original signatures) or (ii) a copy of a power-of-attorney accompanied by an original certification (original means original signature) by the secretary (or other authorized officer) of the surety stating that the copied power-of-attorney is still in full force and effect as of the date of the certification and has not been revoked. An original signature is one that (I) has been added at the time of the certification and (II) is manually affixed to the power of attorney (not computer

generated). The presence of an original seal (a raised, crimped corporate seal or a paper or foil corporate seal that is manually attached) at the certification block of a power-of-attorney is **not** a substitute for an original signature.

14. For purposes of the clause entitled "52.219-4 -- Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999)", the term "otherwise successful offer" means the lowest responsive bid from a responsible bidder prior to the application of any evaluation preference required by this clause.

15. The solicitation clause FAR 52.219-4 expressed that Small Disadvantaged Business (SDB) firms would receive both the HUBZone and SDB evaluation preference adjustments (See FAR clause 52.219-23). Guidance from the Office of the Under Secretary of Defense provides that DOD contracting activities, including the Department of the Army, shall suspend the use of price evaluation adjustments for SDB businesses in DOD Acquisitions, as prescribed in FAR subpart 19.11. Therefore the clause 52.219-23 is not contained in this solicitation and no SDB evaluation preference adjustment will be utilized.

16. Section 00010 – Bid Schedule. The Bid Schedule must be submitted in accordance with FAR 14.301 (48 CFR 14.301) and should be attached to the SF1442. Acceptable methods of submitting the bid schedule include:

    a. Completion of the Government's bid schedule by pen or typewriter.
    b. Completion of a printed computer-generated spreadsheet which contains all of the following information:
        (1) Solicitation Number;
        (2) CLIN number and description (as shown on solicitation bid schedule);
        (3) Quantity of each item (as shown on solicitation bid schedule)
        (4) Unit of Measure;
        (5) Unit Price;
        (6) Extended Amount;
        (7) Subtotals (if subtotals are included in the Government's bid schedule);
        (8) Totals.

    The spreadsheet should be in the same order as the Government's Bid Schedule and indicate which items are option items. The ***Government may reject any bid that does not conform*** to the requirements of FAR 14.301 and to the provisions, clauses and specifications of this solicitation.

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Section 00100 - Instructions to Bidders

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)

52.204-7 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)

52.209-4001 BIDDER'S QUALIFICATIONS (APR 1984) FAR 9.105-1

Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

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)

52.214-4001 INQUIRIES - BID INFORMATION

(a) Inquiries:

Any questions regarding this solicitation should be directed to Kevin P. Henricks, Contract Specialist, at telephone number (651) 290-5415 (collect calls not accepted). It is requested that all technical questions on the plans and specifications be submitted to the Contract Specialist by facsimile transmission to (651) 290-5706 or (651) 290-5060.

The Planholder's List and bid results can be found on the St. Paul District web site at http://www.mvp.usace.army.mil (click on "Advertised Solicitations").

(b) Bid Depository/Bid Opening Information:

Bids must be deposited prior to the date and time set for opening of bids. The bid depository is located in the Contracting Division, 6th Floor, of the St. Paul District, Corps of Engineers Centre, 190 Fifth Street East, St. Paul, Minnesota 55101-1638. A public bid opening will be held at the same location.

52.214-4002 ALL OR NONE QUALIFICATIONS (APR 1984) FAR 14.404-5

A bidder/offeror must quote on all items in this solicitation to be eligible for award. The Government will award on a "All or None" basis. Evaluation of bids/offers will be based, among other factors, upon the total price quoted for all items.

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm-Fixed Price Construction contract resulting from this solicitation.

(End of clause)

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of provision)

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
1.2%	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 East Grand Forks, Polk County, Minnesota and Grand Forks, Grand Forks County, North Dakota.

(End of provision)

52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2002)

(a) Definitions. Construction material, domestic construction material, and foreign construction material, as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act --Construction Materials” (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations 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 the clause at FAR 52.225-9 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 material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(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 not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic 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 the clause at FAR 52.225-9 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 the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic 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)

(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

U.S. Army Corps of Engineers
Contracting Division
Jim Roloff, Contracting Officer
190 Fifth Street East
St. Paul, MN 55101

(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)

(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) Site visits may be arranged during normal duty hours by contacting:

Name:	Craig Johnson or Virginia Regorrah
Address:	201 North 3rd Street, Suite 101 Grand Forks, ND 58201
Telephone:	701-772-8292

(End of provision)

52.236-4002 WORK PERFORMED BY THE CONTRACTOR

The successful bidder must furnish the Contracting Officer within 10 days after the award, the items of work which he will perform with his own forces, the percentage of the total work this represents, and the estimated cost thereof. (See Section 00700, clause entitled ("Performance of Work by Contractor, FAR Clause 52.236-1")).

52.236-4005 UNAVAILABILITY OF UTILITY SERVICES

The responsibility shall be upon the Contractor to provide and maintain at its expense, adequate utilities for its use for construction and domestic consumption, and to install and maintain necessary connections and lines for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Before final acceptance, temporary connections and lines installed by the Contractor shall be removed in a manner satisfactory to the Contracting Officer.

52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions 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. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

www.arnet.gov/far

(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 Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

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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.

(c) 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 237310.

(2) The small business size standard is $28.5 million.

(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)

52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(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)

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Section 00700 - Contract Clauses

CLAUSES INCORPORATED BY FULL TEXT

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)

52.202-4001 DEFINITIONS (MAY 1995) EFARS Part 2.101

"Chief of Contracting Office" means the Chief of the Contracting Division at a District, or the Director of Contracting at a Division, Center, Laboratory, or other support activity.

"Command" means each USACE Division, each USACE District, The U.S. Army Engineering and Support Center (HNC), Transatlantic Programs Center (TAC), Transatlantic Programs Center (Europe) (TAE), Topographic Engineer Center (TEC), Cold Regions Research and Engineering Laboratory (CRREL), Construction Engineering Research

Laboratory (CERL), Humphreys Engineering Center Support Activity (HECSA), and Waterways experiment Station (WES).

"Commander" means the commanding officer of each USACE district and each USACE division, and the director or commander of HNC, TAC, TAE, ETL, CRREL, CERL, HECSA and WES.

"Head of Contracting Activity (HCA)" for USACE means the Chief of Engineers.

Centers. For determining contracting authority levels for this regulation, Centers (HNC, and TAC) will equate to a Division. As a subordinate unit to TAC, TAE's contracting authority will therefore equate to that of a district.

Level higher than the contracting officer. When a District or TAE chief of contracting is the contracting officer, a "level higher than the contracting officer" means the Division or Center Director of Contracting. When an operating Division, Center or Laboratory Director/Chief of Contracting is the contracting officer a "level higher than the contracting officer" means the PARC.

Local Cooperation Agreements (LCAs). See Project Cooperation Agreements.

Project Cooperation Agreements. Formerly referred to as Local Cooperation Agreements, these are agreements under 31 U.S.C. 6305 and 42 U.S.C. 1962d-5b. They are not contracts as defined by the FAR.

"USACE and HQUSACE" means the United States Army Corps of Engineers and its headquarters, respectively.

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)

52.209-6 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 10 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 730 calendar days after receipt of the 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 $1,130.00 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 (MAY 2004)

(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 service-disabled 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)

52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.

(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)

52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount

designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct

classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(c) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(End of clause)

52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(End of clause)

52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(e) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(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)

52.222-23 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
1.2%	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 Grand Forks, North Dakota in Grand Forks County and East Grand Forks, Minnesota in Polk County.

(End of provision)

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)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)

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

Priority chemical means a chemical identified by the Interagency Environmental Leadership Workgroup or, alternatively, by an agency pursuant to section 503 of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management.

“Toxic chemical means a chemical or chemical category listed in 40 CFR 372.65.”

(b) Executive Order 13148 requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

(c) The Contractor shall provide all information needed by the Federal facility to comply with the following:

(1) The emergency planning reporting requirements of section 302 of EPCRA.

(2) The emergency notice requirements of section 304 of EPCRA.

(3) The list of Material Safety Data Sheets, required by section 311 of EPCRA.

(4) The emergency and hazardous chemical inventory forms of section 312 of EPCRA.

(5) The toxic chemical release inventory of section 313 of EPCRA, which includes the reduction and recycling information required by section 6607 of PPA.

(6) The toxic chemical, priority chemical, and hazardous substance release and use reduction goals of sections 502 and 503 of Executive Order 13148.

(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)

52.225-9 BUY AMERICAN ACT—CONSTRUCTION MATERIALS (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 a 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.

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.

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows: “none”

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) 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 requirements 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)(3) 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)(3)(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...	.....	.....	.....

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 (DEC 2003)

(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)

52.226-1 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES (JUN 2000)

(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 constitutea 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. 1542(c).

"Interested party" means a prime 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.

(b) The Contractor shall use its best efforts to give Indian organizations and Indian-owned economic enterprises (25 U.S.C. 1544) the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract.

(1) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status. In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), 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 notify the Contracting Officer. No incentive payment will be made within 50 working days of subcontract award or while a challenge is pending. If a subcontractor is determined to be an ineligible participant, no incentive payment will be made under the Indian Incentive Program.

(2) The Contractor may request an adjustment under the Indian Incentive Program to the following:

(i) The estimated cost of a cost-type contract.

(ii) The target cost of a cost-plus-incentive-fee prime contract.

(iii) The target cost and ceiling price of a fixed-price incentive prime contract.

(iv) The price of a firm-fixed-price prime contract.

(3) The amount of the adjustment to the prime contract is 5 percent of the estimated cost, target cost, or firm-fixed-price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(4) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(c) 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 amount paid to the subcontractor. The Contracting Officer will seek funding in accordance with agency procedures.

(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.

(c) 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)

(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. 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 twenty (20) percent of the bid price or $3 million, 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.

(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)

52.228-11 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)

52.228-14 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)

(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.

(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 twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during 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)

Data and information furnished or referred to below is 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 surveys and subsurface exploration. The subsurface exploration included soil borings and soil testing (both in the field and in the laboratory) noted on the boring logs. Graphic logs of borings located within the area of work under this contract are shown on the drawings. The borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches. Variations in stratigraphy and characteristics of the soil and rock are known to occur between borings. Normal variations in site geology will not be considered as differing materially within the purview of Contract Clause FAR 52.236-2, Differing Site Conditions. Ground water elevations measured in borings are not constant and will fluctuate.

(b) Weather conditions - Adverse weather days

Bidders should satisfy themselves before submitting as to the potential hazards from weather conditions. Complete weather records and reports may be obtained from the local U.S. Weather Service.

(c) Transportation facilities: Before submitting a bid, bidders should obtain necessary data as to access of highway and railroad facilities. The unavailability of transportation facilities shall not become a basis for claims for damages or time for completion of the work.

(d) River Conditions

- Red River discharge hydrographs (2 dwg)
- Monthly flow duration curves (2dwg)
- Rating curves (1dwg)

Hydrographs of the river discharges, monthly flow duration curves, and rating curves are indicated on the drawings. This data provides historic water levels and/or flows at the locations indicated on the drawings. The Contractor has the responsibility to schedule its operations to take advantage of the most favorable river stages.

(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)

52.236-12 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) – ALTERNATE I (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.

(f) 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.

(i) 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.

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

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

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

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

(End of clause)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

52.236-16 QUANTITY SURVEYS (APR 1984) - ALTERNATE I (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 Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

(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) - ALTERNATE I (APR 1984

(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 dis close 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. Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

(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)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (MAY 2004)

(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 (MAY 2004) (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)

52.247-34 F.O.B. DESTINATION (NOV 1991)

(a) The term "f.o.b. destination," as used in this clause, means--

(1) Free of expense to the Government, on board the carrier's conveyance, at a specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or "constructive placement" as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including "piggyback") is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for "heavy or bulky freight." When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall--

(1)(i) Pack and mark the shipment to comply with contract specifications; or

(ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;

(2) Prepare and distribute commercial bills of lading;

(3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;

(4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;

(5) Furnish a delivery schedule and designate the mode of delivering carrier; and

(6) Pay and bear all charges to the specified point of delivery.

(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) (MAY 2004) - 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 49.001 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)

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):

www.amet.gov/far

(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 Federal Acquisition Regulation (48 CFR Chapter 1) 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.

(g) 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)

252.204-7003 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)

252.223-7004 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)

252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

(a) "Definitions".

As used in this clause --

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602) (40 CFR part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

(End of clause)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (MAY 2004)

(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 waste and byproducts of cotton or wool fiber for use in the production of propellants and explosives;

(4) 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;

(5) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(6) 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)

252.225-7014 PREFERENCE FOR DOMESTIC SPECIALTY METALS (APR 2003)

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

(1) Qualifying country means any country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(2) Specialty metals means--

(i) Steel--

(A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or

(B) Containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium;

(ii) Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent;

(iii) Titanium and titanium alloys; or

(iv) Zirconium and zirconium base alloys.

(b) Any specialty metals incorporated in articles delivered under this contract shall be melted in the United States, its possessions, or Puerto Rico.

(c) This clause does not apply to specialty metals --

(1) Melted in a qualifying country or incorporated in an article manufactured in a qualifying country; or

(2) Purchased by a subcontractor at any tier.

(End of clause)

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)

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)

252.232-7003 ELECTRONIC SUBMISSION OF PAYMENT REQUESTS (JAN 2004)

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

(1) Contract financing payment and invoice payment have the meanings given in section 32.001 of the Federal Acquisition Regulation.

(2) Electronic form means any automated system that transmits information electronically from the initiating system to all affected systems. Facsimile, e-mail, and scanned documents are not acceptable electronic forms for submission of payment requests. However, scanned documents are acceptable when they are part of a submission of a payment request made using one of the electronic forms provided for in paragraph (b) of this clause.

(3) Payment request means any request for contract financing payment or invoice payment submitted by the Contractor under this contract.

(b) Except as provided in paragraph (c) of this clause, the Contractor shall submit payment requests using one of the following electronic forms:

(1) Wide Area WorkFlow-Receipt and Acceptance (WAWF-RA). Information regarding WAWF-RA is available on the Internet at https://wawf.eb.mil.

(2) Web Invoicing System (WInS). Information regarding WInS is available on the Internet at https://ecweb.dfas.mil.

(3) American National Standards Institute (ANSI) X.12 electronic data interchange (EDI) formats.

(i) Information regarding EDI formats is available on the Internet at http://www.X12.org.

(ii) EDI implementation guides are available on the Internet at http://www.dfas.mil/ecedi.

(4) Another electronic form authorized by the Contracting Officer.

(c) If the Contractor is unable to submit a payment request in electronic form, or DoD is unable to receive a payment request in electronic form, the Contractor shall submit the payment request using a method mutually agreed to by the Contractor, the Contracting Officer, the contract administration office, and the payment office.

(d) In addition to the requirements of this clause, the Contractor shall meet the requirements of the appropriate payment clauses in this contract when submitting payments requests.

(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:

Drawing index is on Drawing Numbers R-P-GF-00/054.

(End of clause)

252.236-7002 OBSTRUCTION OF NAVIGABLE WATERWAYS. (DEC 1991)

(a) The Contractor shall --

(1) Promptly recover and remove any material, plant, machinery, or appliance which the contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;

(2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and

(3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may --

(1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and

(2) Deduct the cost of removal from any monies due or to become due to the Contractor; or

(3) Recover the cost of removal under the Contractor's bond.

(c) The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et. seq.).

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.

252.244-7000 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (DOD) (MAR 2000)

In addition to the clauses listed in paragraph (c) of the Subcontracts for Commercial Items and Commercial Components clause of this contract (Federal Acquisition Regulation 52.244-6), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:

252.225-7014 Preference for Domestic Specialty Metals, Alternate I (10 U.S.C. 2241 note).

252.247-7023 Transportation of Supplies by Sea (10 U.S.C. 2631).

252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C. 2631).

(End of clause)

252.246-7000 MATERIAL INSPECTION AND RECEIVING REPORT (MAR 2003)

(a) At the time of each delivery of supplies or services under this contract, the Contractor shall prepare and furnish to the Government a material inspection and receiving report in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense FAR Supplement.

(b) Contractor submission of the material inspection and receiving information required by Appendix F of the Defense FAR Supplement by using the Wide Area WorkFlow-Receipt and Acceptance (WAWF-RA) electronic form (see paragraph (b)(1) of the clause at 252.232-7003) fulfills the requirement for a material inspection and receiving report (DD Form 250).

(End of clause)

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)

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Section 00800 - Special Contract Requirements

CLAUSES INCORPORATED BY FULL TEXT

52.000-4004 PARTNERING

The Government proposes to form a partnering relationship with the contractor. This partnering relationship will strive to facilitate communication and draw on the strengths of each organization in an effort to achieve a quality project, within budget, and on schedule. Participation will be totally voluntary. Partnering will not alter or supersede any provision of this contract nor will it provide either party with any additional contractual rights or obligations. Participation in partnering will not affect award of this contract. Any cost associated with this partnering will be agreed to by both parties and will be shared equally, with no change in contract price.

52.212-4003 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989) ER 415-1-15

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

1) 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.

2) 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.

b. The following schedule of monthly anticipated adverse weather delays is based on 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.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORKDAYS BASED ON (5) DAY WORKWEEK.

GEOGRAPHIC LOCATION -- Grand Forks, North Dakota

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DAYS	20	14	9	3	3	4	4	4	3	2	7	17

c. 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 workday. 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 paragraph b, above, 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 CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION).

52.212-5000 EVALUATION OF SUBDIVIDED ITEMS (MAR 1995)--EFARS

Item No. 0012 is subdivided into two or more estimated quantities and are to be separately priced. The Government will evaluate each of these items on the basis of total price of its sub-items.

(End of provision)

52.212-5001 VARIATIONS IN ESTIMATED QUANTITIES, SUBDIVIDED ITEMS (MAR 1995)--EFARS

This variation in estimated quantities clause is applicable only to Items No. 0012.

(a) Variation from the estimated quantity in the actual work performed under any second or subsequent sub-item or elimination of all work under such a second or subsequent sub-item will not be the basis for an adjustment in contract unit price.

(b) Where the actual quantity of work performed for Items No. 0012 is less than 85% of the quantity of the first sub-item listed under such item, the contractor will be paid at the contract unit price for that sub-item for the actual quantity of work performed and, in addition, an equitable adjustment shall be made in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

(c) If the actual quantity of work performed under Items No. 0012 exceeds 115% or is less than 85% of the total estimated quantity of the sub-item under that item and/or if the quantity of the work performed under the second sub-item or any subsequent sub-item under Items No. 0012 exceeds 115% or is less than 85% of the estimated quantity of any such sub-item, and if such variation causes an increase or a decrease in the time required for performance of this contract the contract completion time will be adjusted in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

(End of clause)

52.214-5000 ARITHMETIC DISCREPANCIES – EFARS

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

(1) Obviously misplaced decimal points will be corrected;
(c) Discrepancy between unit price and extended price, the unit price will govern;
(d) Apparent errors in extension of unit prices will be corrected;
(e) 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 his bid to be evaluated on 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)

52.222-4008 DAVIS-BACON WAGE DETERMINATION – CONFLICTING SCHEDULES MINNESOTA AND NORTH DAKOTA

Work under this contract will be performed in both Minnesota and North Dakota. Wage determinations for both Minnesota and North Dakota are included as attachments in Section 00830 of the specifications. Some work under this contract may require members of the contractor's work force to perform work in both states. The contractor shall segregate the work performed in each state and under each wage determination on its payrolls. In the event that it is impracticable to segregate an employee's work, or in the event of a conflict as to the place of performance of that work, the wage classification (and rate) resulting in the highest rate of pay/fringe benefits to that employee will apply.

52.228-4022 REQUIREMENT FOR BID GUARANTEE (FAR 28.101-2)

Each bidder shall submit with its bid a Bid Bond (Standard Form 24) with good and sufficient surety or sureties acceptable to the Government or other security as provided in the clause BID GUARANTEE in the form of twenty percent (20%) of the bid price or $3,000,000 whichever is lesser. The bid bond penalty may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents.

52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)—EFARS

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of 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 IV. 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)

52.232-4004 INVOICE PROCEDURES

In accordance with CONTRACT CLAUSE titled "PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS", the contractor shall submit invoices as follows:

a. In order to qualify for a periodic payment, the Contractor must submit a proper invoice (request for payment) to the Contracting Officer's Representative (COR) and a determination must be made that supplies or services conform to the contract requirements. This determination will be made for the sole purpose of processing progress payments and will not constitute formal acceptance. The due date for making progress payments shall be as stated in the contract clause: PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS.

b. The submitted request for payment must be accompanied with documentation adequate to substantiate the amount requested. Substantiation shall be consistent will the clauses in the solicitation titled Quantity Surveys, Purchase Orders, Invoices, etc. satisfactory to the COR.

c. The Contractor must also include with the payment request a certification as described in the Clause "PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS".

d. Payment requests will be reviewed for propriety by the COR. Defective invoices will be returned to the Contractor for resolution with defects identified. Along with the returned invoice, the COR may include, at its option, an ENG FORM 93-PAYMENT ESTIMATE reflecting the substantiated and uncontested payment amount. The Contractor will then be given the option of signing and returning the FORM 93 for payment along with the original invoice and certification or resubmitting a revised invoice and certification. To expedite payment, the Contractor may request in writing that the COR retain the defective invoice and immediately process the payment request at the amount determined to be acceptable to the Government.

52.232-5001 CONTINUING CONTRACTS (MAR 1995) - EFARS

(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

(b) The sum of $1,000,000.00 has been reserved for this contract and is available for payments to the contractor during the current fiscal year. 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.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

(d) 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.

(e) 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 the 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.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the 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.

(g) 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 the "Suspension of Work" clause or in any other manner under this contract.

(h) 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.

(i) If, upon the expiration of sixty (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 considered a termination for the convenience of the Government.

(j) 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 the 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.

(End of clause)

52.236-4006 SAFETY AND HEALTH REQUIREMENTS MANUAL INTERIM CHANGES, EM 385-1-1 (APR 2001)

This paragraph applies to contracts and purchase orders that require the contractor to comply with EM 385-1-1 (e.g., contracts that include the Accident Prevention clause at FAR 52.236-13 and/or other safety provisions). EM 385-1-1 and its changes are available at http://www.hq.usace.army.mil (at the HQ homepage, select Safety and Occupational Health). The Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

52.236-4012 MATERIAL SOURCES

a. Concrete aggregate and stone protection materials meeting the requirements of these specifications can be produced from the sources listed in Section 00830 “Attachments”:

b. Materials may be furnished from any of the listed sources or at the option of the Contractor may be furnished from any other sources designated by the Contractor and approved by the Contracting Officer, subject to the conditions hereinafter stated.

c. After the award of the contract, the Contractor shall designate in writing only one source for each type of material or one combination of sources from which he proposes to furnish the materials. If the Contractor proposes to furnish materials from a source or from sources not listed, he may designate only a single source for each type of material or single combination of sources for materials. Samples for acceptance testing shall be provided as required by the TECHNICAL PROVISIONS. If a source for materials so designated by the Contractor is not approved for use by the Contracting Officer, the Contractor may not submit for approval other sources but shall furnish the materials from approved sources selected from the list at no additional cost to the Government.

d. Approval of a source of materials is not to be construed as approval of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable as determined by the Contracting Officer. Materials produced from an approved source shall meet all the requirements of the TECHNICAL PROVISIONS of these specifications.

52.236-4014 PURCHASE ORDERS

Two legible copies of each purchase order issued by the Contractor or the Contractor's subcontractors for materials and equipment to be incorporated into the project, shall be furnished the Contracting Officer as soon as issued. Each purchase order shall (1) be clearly identified with applicable Department of Army contract number, (2) carry and identifying number, (3) be in sufficient detail to identify the material being purchased, and (4) indicate a definite delivery date. At the option of the Contractor, the copies of the purchase orders may or may not indicate the price of the articles purchased.

52.236-4025 FLOATING PLANT EQUIPMENT (MAY 1999)

When mechanized equipment is operated on floating plant, the contractor shall provide positive and acceptable means of preventing this equipment from moving or falling into the water. The type of equipment addressed by this clause includes front-end loaders, bulldozers, trucks (both on and off-road), backhoes, trackhoes, and similar equipment. If the Contractor plans to use such equipment on floating plant, an activity hazard analysis must be developed for this feature of work. The plan must include a detailed explanation of the type or types of physical barriers, curbs, structures, etc., which will be incorporated to protect the operator and prevent the equipment from entering the water. Nonstructural warning devices may be considered for situations where the use of structural barriers is determined to be impracticable. The activity hazard analysis must thoroughly address the procedure and be submitted to the Corps of engineers for review and acceptance prior to start of this feature of work.

52.236-4061 OBSTRUCTION OF CHANNEL

The Government will not undertake to keep the channel free from vessels or other obstructions, except to the extent of such regulations, if any, as may be prescribed by the Secretary of the Army, in accordance with the Provisions of Section 7 of the River and Harbor Act approved August 8, 1917. The Contractor will be required to conduct the work in such manner as to obstruct navigation as little as possible. The Contractor shall consult with the appropriate Coast Guard office to determine whether a Notice to Mariners will need to be issued for construction-related activities that might interfere with navigation or be interfered with by such navigation. (Point of Contact: Marine Safety Detachment, St. Paul, Minnesota, 651-290-3991) If the Contractor's plant so obstructs the channel as to make difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. Upon the completion of the work the Contractor shall promptly remove his plant, including ranges, buoys, piles, and other marks placed by him under the contract whether in navigable waters or on shore.

52.236-5000 PLANT AND MATERIAL REMOVAL AFTER CONTRACT TERMINATION (MAR 1995) - EFARS

Should this contract be terminated as provided in clause 52.232-5001 because of the failure of Congress to provide additional funds for its completion, the contractor may be permitted to remove plant and material on which payments for preparatory work have been made, subject to an equitable deduction from the amounts due the contractor to reimburse the United States for the unabsorbed value of such plant and material.

(End of clause)

52.239-4001 YEAR 2000 COMPLIANCE (FAR 39.106) (JUL 1998)

The contractor shall ensure that, with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically, the contractor shall perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

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)

52.246-4001 LABORATORY AND TESTING FACILITIES

The Contractor shall provide and maintain all measuring and testing devices, laboratory equipment, instruments, transportation, and supplies necessary to accomplish the required testing. All measuring and testing devices shall be calibrated at established intervals against certified standards. The Contractor's measuring and testing equipment shall be made available for use by the Government for verification of their accuracy and condition as well as for any inspection or test desired pursuant to SECTION 00700: INSPECTION OF CONSTRUCTION. The location of the laboratory shall be convenient to the site such that test results are available prior to proceeding with the next sequential phase of the work.

52.249-5000 BASIS FOR SETTLEMENT OF 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 terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

(1) 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.

(2) 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)

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SECTION 00830

ATTACHMENTS

INDEX

ATTACHMENT	TITLE	PAGE
A	WAGE RATES - MN030061	00830-A-1
B	WAGE RATES - ND030014	00830-B-1
C	MATERIAL SOURCES	00830-C-1

U.S. Department of Labor

Employment Standards Administration
Wage and Hour Division
Washington, D.C. 20210

SEP 23 2003

Mr. Steven P. Adamski
Deputy District Counsel
S.S. Army Engineer District, St. Paul
190 East 5th Street
St. Paul, Minnesota 55101

RE: Wage Decision No.: MN20030061
Location: Polk County, Minnesota

Dear Mr. Adamski:

Wage Decision No. MN20030061 dated June 13, 2003 is incorporated into the contract for the above project. This decision contains an inadvertent clerical error affecting the Area Descriptions for Power Equipment Operators (Heavy, Sewer & Water Lines). That wage decision included the following Area Description:

AREA 3 (WESTERN): BENTON (Remainder) and STEARNS (Remainder) COUNTIES

Pursuant to the provisions of Regulations, 29 CFR Part 1, section 1.6(d), the Administrator of the Wage-Hour Division may correct any wage determination that contains clerical errors. Such corrections shall be included in any bid specifications containing the wage determination, or in any on-going contract containing the wage determination in question retroactively to the start of construction.

The wage decision in question is revised to reflect the following Area Description:

AREA 3 (WESTERN): BENTON (Remainder), POLK, and STEARNS (Remainder) COUNTIES

Appropriate action in this matter will be appreciated.

Sincerely,

John E. Frank
Section Chief, Construction
Wage Determinations

GENERAL DECISION: **MN20030061** 01/02/2004 MN61

Date: January 2, 2004
General Decision Number: **MN20030061** 01/02/2004

Superseded General Decision Number: MN020061

State: Minnesota

Construction Types: Heavy (Heavy, Sewer and Water Line, and Treatment Plant)

Counties: Anoka, Benton, Carver, Chisago, Clay, Dakota, Hennepin, Houston, Isanti, Olmsted, Polk, Ramsey, Scott, Sherburne, St Louis, Stearns, Washington and Wright Counties in Minnesota.

CLAY & POLK COUNTIES

TREATMENT PLANTS, HEAVY, SEWER & WATER LINES

Modification Number	Publication Date
0	06/13/2003
1	01/02/2004

* ASBE0034-006 06/01/2003

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)	$ 31.04	13.24

ASBE0049-005 06/01/2002

ST. LOUIS COUNTY

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)	$ 28.33	8.93

ASBE0133-002 07/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator		

(Includes application of
all insulating materials,
protective coverings,
coatings & finishings to
all types of mechanical
systems).....$ 22.43 7.60

ASBE0205-011 05/01/1998

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	$ 18.21	3.30

BOIL0647-004 10/01/1999

	Rates	Fringes
Boilermaker.....	$ 23.35	9.71

BRMN0001-026 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (City of Elk River), WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 28.64	8.80

BRMN0001-027 05/01/2002

BENTON, SHERBURNE (Excluding city of Elk River) & STEARNS COUNTIES

	Rates	Fringes
Bricklayer (Bricklayer, Blocklayer, Stonemason).....	$ 26.65	8.80

BRMN0001-028 05/01/2002

BENTON & STEARNS COUNTIES

	Rates	Fringes

Cement Mason (Treatment
Plants).....$ 26.20 8.70

Plasterer (Treatment
Plants-Stearns County).....$ 26.20 8.70

BRMN0001-029 05/01/2002

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, HOUSTON, ISANTI, POLK, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS (Excluding Duluth and south of Township Line 55), STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Tile Setter	$ 27.29	9.65

BRMN0001-030 05/01/2002

	Rates	Fringes
Tile Finisher	$ 23.90	7.55

BRMN0001-031 05/01/2002

	Rates	Fringes
Marble Setter	$ 28.64	8.80

BRMN0001-036 05/01/2002

	Rates	Fringes
Terrazzo Worker		
Base Machine	$ 27.79	8.70
Finisher	$ 27.46	8.70
Mechanic	$ 26.91	10.10

BRMN0003-005 05/01/2003

ST. LOUIS (South of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY

	Rates	Fringes
Bricklayer	$ 28.83	9.51

BRMN0003-006 05/01/2002

ST. LOUIS COUNTY (S. of a line between Townships 54 & 55 (2 miles north of Cotton)

	Rates	Fringes
Tile Layer	$ 21.96	9.00

BRMN0007-003 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Bricklayer (Bricklayer, Blocklayer, Caulker, Cleaner, Pointer, Stonemason)	$ 27.27	9.13

BRMN0008-008 05/01/2002

OLMSTED COUNTY

	Rates	Fringes
Bricklayer (Bricklayer, Caulker, Cleaner, Pointer, Stonemason)	$ 27.78	9.13

BRMN0008-009 05/01/2002

OLMSTED COUNTY

	Rates	Fringes
Tile Layer	$ 25.14	

BRMN0015-008 05/01/2002

CLAY AND POLK COUINTIES

	Rates	Fringes
Bricklayer	$ 25.82	9.05

BRMN0015-009 05/01/2002

CLAY COUNTY

	Rates	Fringes
Cement Mason	$ 25.42	9.05

BRMN0016-003 05/01/2002

ST. LOUIS (North of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY

	Rates	Fringes
Bricklayer	$ 25.11	11.20

CARP0087-006 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (Excluding St. Cloud & extending 5 miles beyond the city limits of St. Cloud), WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Carpenters: (Treatment Plants)		
Carpenter, Insulator, Piledriverman	$ 28.66	7.88

CARP0087-012 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON, AND WRIGHT COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)	$ 26.17	9.80

CARP0190-007 05/01/1997

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Lather	$ 22.45	7.04

CARP0190-009 06/01/2001

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Lather	$ 24.34	5.04

CARP0361-007 05/01/2001

ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY

	Rates	Fringes
Carpenter (Treatment Plants)	$ 20.54	9.00

CARP0361-010 05/01/2001

POLK & ST. LOUIS COUNTIES

	Rates	Fringes
Lather	$ 20.82	9.00

CARP0361-013 05/01/2001

ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY

	Rates	Fringes
Soft Floor Layer.....	$ 19.73	9.91

CARP0361-020 05/01/2002

ST LOUIS COUNTY (Southern 1/3 including Cotton, Floodwood, Fond Du Lac, and Proctor)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	$ 22.51	10.96

CARP0361-021 05/01/2002

ST LOUIS COUNTY (Duluth)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	$ 22.91	10.96

CARP0548-006 04/28/2002

ANOKA, BENTON, CARVER, CHISAGO, CLAY (Moorhead & up to 5 miles radius), DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, POLK (East Grand Forks & up to 5 miles radius), RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Millwright.....	$ 29.44	8.18

CARP0596-004 06/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (E. of Hwy #169, inclu. Zimmerman, Big Lake & Elk River), WASHINGTON & WRIGHT (S. of Hwy #12, inclu. Cokato, Buffalo & Monticello) COUNTIES

	Rates	Fringes
Soft Floor Layer.....	$ 25.44	9.73

CARP0606-003 05/01/2002

CLAY AND POLK COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 18.34	10.10

CARP0606-004 05/01/2002

ST. LOUIS COUNTY (Excluding Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft)

	Rates	Fringes
Carpenter (Treatment Plants)		
Carpenter, Piledriverman, Soft Floor Layer	$ 19.96	10.10

CARP0606-006 05/01/2002

POLK COUNTY (Excluding East Grand Forks and an area 5 miles outside city limits)

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants))	$ 16.49	8.96

CARP0606-010 05/01/2002

ST LOUIS COUNTY (Northeast 2/3 including Cook, Cusson, Ely; and Western part including Chisholm, Greaney, and Orr)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 23.37	10.10

CARP0930-002 05/01/2002

BENTON AND STEARNS COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)	$ 21.79	9.58

CARP0930-004 05/01/2002

BENTON, SHERBURNE (Extreme NW portion, Including St. Cloud & extending 5 miles beyond the city limits of St. Cloud) & STEARNS COUNTIES

	Rates	Fringes

Carpenter & Piledrivermen
(Treatment Plants).....$ 20.66 7.23

CARP1176-002 05/01/2002

CLAY COUNTY (City of Moorhead & a radius of 5 miles NE & South of the city limits) & POLK COUNTY (East Grand Forks & an area 5 miles outside city limits)

	Rates	Fringes
Carpenter (Treatment Plants)...	$ 16.00	8.90
Piledriverman (Treatment Plants).....	$ 18.02	8.90

CARP1348-003 05/01/2000

CLAY (Excluding Moorhead & up to 5 miles radius), POLK (Excluding East Grand Forks & up to 5 miles radius) & ST. LOUIS COUNTIES

	Rates	Fringes
Millwright (Treatment Plants).....	$ 21.66	10.29

CARP1382-004 05/01/2002

OLMSTED COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	$ 23.43	6.88

CARP1382-008 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	$ 19.12	6.88

CARP1382-016 05/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	$ 22.09	8.83

ELEC0110-010 05/01/2002

ANOKA (Except Anoka & Fridley Townships & the cities of Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey & Spring Lake Park), CHISAGO, DAKOTA, ISANTI, RAMSEY, SHERBURNE (East of Becker & Santiago Townships) & WASHINGTON COUNTIES

	Rates	Fringes
Cable splicer	$ 30.45	28.5%+5.77
Electrician	$ 29.45	28.5%+5.77

ELEC0110-011 03/01/1998

	Rates	Fringes
Communications System (SOUND, SIGNAL & COMMUNICATIONS WORK)		
Installer (Excluding Controller Work)	$ 11.31	.34+a+b
Technician (Installation of Controller Only)	$ 19.22	.58+a+b

FOOTNOTES:

a. 1 year's service - 5 days' paid vacation; 2 years' service - 10 days' paid vacation; 5 years' service - 12 days' paid vacation; 7 years' service - 14 days' paid vacation; 9 years' service - 16 days' paid vacation; 11 years' service - 18 days' paid vacation; 12 years' service - 20 days' paid vacation

b. 8 Paid Holidays: New Year's Day; Memorial Day; 4th of July; Labor Day; Thanksgiving Day; Day After Thanksgiving; the normal work day preceding Christmas Day; & Christmas Day

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ELEC0160-002 03/31/2002

	Rates	Fringes
Line Construction		
(1)Lineman; Cable Splicer; Dynamiter; Special Equipment Operator; & Technician	$ 27.51	10.01
(2) Equipment Operator	$ 23.66	8.90
(3) Groundman/Truck Driver; & Pole Treating Truck Driver	$ 19.26	7.64
LINE CLEARANCE:		
(4)Tree Trimmer; Tractor Operator	$ 18.44	7.40
(5) Groundman/Truck Driver	$ 12.91	5.81
(6) Groundman	$ 11.99	5.55

ELEC0242-007 06/01/2002

ST. LOUIS COUNTY (South part bounded on the north by the north line of Kelsey Township extended east & west)

	Rates	Fringes
Electrician	$ 26.14	49.5%

ELEC0292-006 05/01/2002

ANOKA (Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey, Spring Lake Park), BENTON AND SHERBURNE COUNTIES (East of Hwy 25 to Hwy 10 and an imaginary line straight West to the Missippi River), CARVER, HENNEPIN, SCOTT, AND WRIGHT COUNTIES

	Rates	Fringes
Cable splicer	$ 31.00	14.19
Electrician	$ 30.00	14.66

ELEC0292-010 05/01/2002

BENTON AND SHERBURNE COUNTIES (West of Hwy 25 to Hwy 10 and an imaginary line straight West to the Mississippi River), AND STEARNS COUNTY

	Rates	Fringes
Electricians:		
ELECTRICAL CONTRACTS		
$500,000 AND OVER:		
Cable Splicer	$ 31.00	14.66
Electrician	$ 30.00	14.19
ELECTRICAL CONTRACTS		
UNDER $500,000:		
Cable Splicer	$ 28.04	13.78
Electrician	$ 27.04	13.29

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* ELEC0294-008 06/01/2003

ST. LOUIS COUNTY (North part bounded on the south by the south line of Ellsburg Township, extended east & west)

	Rates	Fringes
Cable splicer	$ 26.90	53%
Electrician	$ 26.35	53%

ELEC0343-007 06/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Cable splicer	$ 25.72	15%+8.27
Electrician	$ 24.72	15%+8.27

ELEC1426-007 06/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Cable splicer	$ 21.60	12%+6.20
Electrician	$ 20.57	12%+6.20

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* ENGI0049-023 05/01/2003

	Rates	Fringes
Power Equipment Operator (Treatment Plants)		
GROUP 1	$ 30.84	9.35
GROUP 2	$ 30.50	9.35
GROUP 3	$ 29.09	9.35
GROUP 4	$ 28.75	9.35
GROUP 5	$ 28.58	9.35
GROUP 6	$ 27.07	9.35
GROUP 7	$ 25.95	9.35
GROUP 8	$ 23.94	9.35

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Operator; Truck & Crawler Crane with 200' of Boom & Over, including Jib ($.50 premium with 300' of Boom & over, including jib); & Tower Crane 250' & Over

GROUP 2 - Truck & Crawler Crane with 150' of Boom, up to but not including 200' of Boom, including Jib; & Tower Crane 200' & Over, Concrete Pump 164 ft Boom.

GROUP 3 - Traveling Tower Crane; Master Mechanic; Pile Driving Operator (when 3 drums are used); Truck & Crawler Crane, up to but not including 150' of Boom, including Jib; Derrick (Guy & Stiffleg); Tower Crane (Stationary) up to 200'; & All Terrain Vehicle Crane, Boom Truck over 100 ft.

GROUP 4 - Crawler Backhoe; Hoist Engineer (3 drums or more); Locomotive Operator; Overhead Crane Operator (inside building perimeter); & Tractor Operator with Boom

GROUP 5 - Air Compressor Operator 450 CFM or Over (2 or more machines); Pump Operator and/or Conveyor Operator (2 or more machines); Mechanic; Pumpcrete or Complaco type Machine Operator; Forklift; Boom Truck up to 100 ft; Concrete Mixer Operator; Drill Rig - Heavy Rotary or Churn when used for Caisson Drilling for Elevator Cylinder or Building Construction; Front End Loader (Over 1 cu. yd.); Hoist Engineer (1 or 2 drums); Straddle Carrier Operator; Power Plant Engineer (100 KW & over on multiples equal to 100KW & over); Tractor Operator over D2; & Well Point Pump Op.

GROUP 6 - Concrete Batch Plant Operator; Gunite Operator; Tractor Operator D2 or similar size; & Front End Loader Operator, up to 1 cu. yd.

GROUP 7 - Air Compressor Operator 600 CFM or Over; Pump and/or Conveyor Operator; Brakeman; Pick-up Sweeper (1 cu. yd. & over Hopper capacity); Truck Crane Oiler; & Welding Machine Operator, Fireman temporary heat.

GROUP 8 - Mechanical Space Heater (Temporary Heat); Oiler or Greaser; & Elevator Operator

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* ENGI0049-024 05/01/2003

	Rates	Fringes
Power Equipment Operator (Heavy, Sewer & Water lines)		
AREA 1:		
Group 1:	$ 26.97	9.35
Group 2:	$ 26.42	9.35
Group 3:	$ 26.24	9.35
Group 4:	$ 26.12	9.35
Group 5:	$ 23.08	9.35
Group 6:	$ 21.87	9.35
AREA 2:		
Group 1:	$ 24.61	9.35
Group 2:	$ 24.16	9.35
Group 3:	$ 23.99	9.35
Group 4:	$ 23.86	9.35
Group 5:	$ 21.29	9.35
Group 6:	$ 20.42	9.35
AREA 3:		
Group 1:	$ 21.90	9.35
Group 2:	$ 20.97	9.35
Group 3:	$ 20.77	9.35
Group 4:	$ 20.66	9.35
Group 5:	$ 18.95	9.35
Group 6:	$ 18.35	9.35

AREA DESCRIPTIONS

AREA 1 (METRO): ANOKA, CARVER, CHISAGO (South of the Northern boundary of T.34-N & that part consisting substantially of the cities of Thomson, Cloquet, Scanlon & Carlton), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE (South of the northern boundary of T. 33-N & East of the Western boundary of R. 27-W), ST. LOUIS, WASHINGTON & WRIGHT (East of & inclu. Hwy #25) COUNTIES

AREA 2 (EASTERN): BENTON (East of the Western right of way of HWY #10), CHISAGO (Remainder), HOUSTON, ISANTI, OLMSTED, SHERBURNE (Remainder), STEARNS (East of the Western right of way of Hwy #15), and WRIGHT (Remainder) COUNTIES

AREA 3 (WESTERN): BENTON (Remainder) and STEARNS (Remainder) COUNTIES

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Pilot; *Crane with over 135' Boom, excluding Jib; Dragline, Crawler, Hydraulic Backhoe and/or other similar equipment with Shovel-type Controls 3 cu. yds. & over Mfg. rated Cap.; & Pile Driving when 3 Drums are in use

GROUP 2 - Cableway; Concrete Mixer, Stationary Plant over

34E; Derrick (Guy or Stiffleg) (Power) (Skids or Stationary); Diver; Dragline, Crawler, Hydraulic Backhoe and/or similar equipment with Shovel-type Controls, up to 3 cu. yds. Mfg. rated cap.; Dredge or Engineers, Dredge (Power) & Engineer; Front End Loader, 5 cu. yds. & over; Grader or Motor Patrol, Finishing Earthwork & Bituminous; Locomotive Crane; Master Mechanic; Mixer (Paving) Concrete Paving, Road; Mole, including Power Supply; Mucking Machine, including Mucking Operations, Conway or similar type; Piledriving; Refrigeration Plant Engineer; Tandem Scraper; Tractor - Boom type; Truck Crane - Crawler Crane; & Tugboat 100 HP & over

GROUP 3 - Dual Tractor; Elevating Grader; Pumpcrete; Scraper-Struck Cap. 32 cu. yds. & over; & Self-propelled Traveling Soil Stabilizer

GROUP 4 - Air Track Rock Drill; Articulated Hauler Terex, Caterpillar or similar type; Asphalt Bituminous Stabilizer Plant; Automatic Road Machine (CMI or similar); Backfiller; Bituminous Roller (8 Tons & over); Bituminous Spreader & Finishing (Power); Boom Truck (Power operated Boom); Brokk or R.T.C. 750 Remote Control or Similar types with all attachments; Cat & Scraper; Cat Tractor with Rock Wagons or similar types; Challenger 75-D or 85-D when pulling Scraper or Bulldozer; Chip Harvester & Tree Cutter over 150 HP; Concrete Batch Plant; Concrete Mixer on jobsite over 14S; Concrete Mobile; Crushing Plant (Gravel & Stone) or Gravel Washing, Crushing & Screening Plant; Curb Machine; Directional Boring Machine; Dope Machine (Pipeline); Drill Rigs, Heavy Rotary or Churn or Cable Drill; Fork Lift or Straddle Carrier; Fork Lift or Lumber Stacker; Front End Loader, over 1 cu. yd.; Hoist Engineer (Power); Hydraulic Tree Planter; Launcherman (Tankerman or Pilot License); Lead Greaser; Locomotive; Mechanic; Milling, Grinding & Planing Machine; Morbark Tub Grinder or Similar Type; Multiple Machines, such as Air Compressors, Welding Machines, Generators, Pumps; Pavement Breaker or Tamping Machine (Power Driven) Mighty Mite or similar type; Pickup Sweeper, 1 cu. yd. & over Hopper Cap.; Pipeline Wrapping, Cleaning or Bending Machine; Power Plant Engineer, 100 K.W.H. & over; Power Actuated Horizontal Boring Machine, over 6"; Pugmill; Rubber- tired Farm Tractor, Backhoe Attach.; Scraper, up to 32 cu. yds.; Skid Steer Loader, over 1 cu. yd. with Backhoe Attachment; Slip Form (Power Driven) (Paving); Tie Tamper & Ballast Machine; Tractor, Bulldozer; Tractor Operator, over 50 HP with Power Take-off; Trenching Machine (Sewer, Water, Gas); Well Point Installation; & Dismantling or Repair Mechanic

GROUP 5 - Air Compressor, 600 CFM or over; Bituminous Roller (Under 8 tons); Bituminous Rubber-tired Roller; Bituminous Spreader & Bituminous Finishing Machine Tender (Power); Concrete Distributor & Spreader Finishing Machine, Longitudinal Float, Joint Machine, & Spray; Concrete Saw (Multiple Blade) (Power Operated); Form Trench Digger (Power); Front End Loader, up to & incl. 1 cu. yd.; Grader (Motor Patrol); Gunite Gunall; Hydraulic Log Splitter; Loader (Barber Greene or similar type); Payhauler or similar type; Post Hole Driving Machine/Post Hole Augar; Power Actuated Auger & Boring Machine; Power Actuated Jack; Pump; Self-propelled Chip Spreader (Flaherty or similar); Sheep Foot Compactor with Blade - 200 HP & over; Shouldering

Machine (Power) Apsco or similar type inclu. self-propelled Sand & Chip Spreader; Stump Chipper & Tree Chipper; Tractor Operator, Bulldozer, 50 HP or less; & Tree Farmer (Machine)

GROUP 6 - Challenger 75-D or 85-D when pulling Disk or Roller; Conveyor; Dredge Deck Hand; Fireman or Tank Car Heater; Gravel Screening Plant (Portable not Crushing or Washing); Greaser (Truck or Tractor); Leverman; Mechanic Tender; Mechanic, Space Heater (Temporary Heat); Oiler (Power Shovel, Crane, Dragline); Power Sweeper; Roller on Gravel Compaction; Self-propelled Vibrating Packer (35 HP & over); Sheep Foot Roller; Tractor, Wheel Type (over 50 HP); & Truck Crane Oiler

*CRANE OVER 135' BOOM, EXCLUDING JIB - $ .25 PREMIUM; CRANE OVER 200' BOOM, EXCLUDING JIB - $ .50 PREMIUM

UNDERGROUND WORK:
UNNELS, SHAFTS, ETC. - $ .25 PREMIUM
UNDER AIR PRESSURE - $ .50 PREMIUM

HAZARDOUS WASTE PROJECTS (PPE Required):
LEVEL A - $1.25 PREMIUM
LEVEL B - $ .90 PREMIUM
LEVEL C - $ .60 PREMIUM

IRON0512-013 05/01/2003

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Ironworker	$ 29.50	11.84

IRON0563-011 05/01/2003

ST. LOUIS COUNTY

	Rates	Fringes
Ironworker	$ 24.33	13.75

IRON0793-005 05/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Ironworker	$ 19.14	9.73

LABO0010-006 05/01/2002

	Rates	Fringes
Landscaper (Seeding, Sodding & Planting of evergreen & deciduous shrubs & trees)	$ 13.34	5.05

LABO0132-009 01/01/2000

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborer (Asbestos Abatement)	$ 19.16	6.62

LABO0132-013 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborers: (Treatment Plants)		
GROUP 1	$ 25.73	7.71
GROUP 2	$ 26.23	7.71
GROUP 3	$ 26.73	7.71

LABORERS CLASSIFICATIONS

GROUP 1 - Construction Craft Laborer; Flagperson/Traffic Control; Carpenter Tender; Concrete; Damp Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Material Handler - Power Buggy; Rebar; Snow Blower Operator; Signal Person; Asbestos and Hazardous Waste Technician; Hydro Blast or Waterblast; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Demolition & Remodeling, Excluding Demolition of an entire Structural System; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including Patent" Scaffolding); Torchman - Gas, Electric, Thermal or similar device; & Remote Control Tamper

GROUP 2 - Caisson Work; Mounted Wall Saw Operator; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Pipe Rehab Technical, including Cleaning, Cutting, Cameraing, etc.; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; & Underpinning

GROUP 3 - Driller for Blasting purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

LABO0132-016 06/01/1999

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Plasterer tender (Treatment Plants)	$ 23.85	5.59

LABO0405-003 05/01/1999

TREATMENT PLANTS

	Rates	Fringes
HOUSTON COUNTY:		
Laborers:		
FLAGPERSON	$ 13.66	4.89
GROUP 1	$ 15.49	4.89
GROUP 2	$ 16.19	4.89
OLMSTED COUNTY:		
FLAGPERSON	$ 15.06	4.89
GROUP 1	$ 16.94	4.89
GROUP 2	$ 17.64	4.89

LABORER CLASSIFICATIONS

GROUP 1: Construction; General; Carpenter Tender; Concrete; Damp Proofer Below Grade; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Firewatch; Joist Handler; Material Handler - Power Buggy; Rebar; Signalperson; Snow Blower Operator; Demolition & Wrecking, Including Remodeling; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (not including "Patent" Scaffolding); & Remote Control Tamper

GROUP 2: Pipe Rehab Technician, including Cleaning, Cutting, Cameraing, etc.; Caisson Work; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work-Open Ditch or Excavation 8' Below Grade; Underpinning; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Driller for Blasting Purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 3: Flagperson

LABO0405-005 05/01/2002

	Rates	Fringes
Laborers: (Heavy, Sewer & Water Lines)		
GROUP 1	$ 19.59	5.96
GROUP 2	$ 19.79	5.96
GROUP 3	$ 19.94	5.96
GROUP 4	$ 20.04	5.96
GROUP 5	$ 20.29	5.96
GROUP 6	$ 21.59	5.96

LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete

Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; Tunnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO0563-003 05/01/2001

BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES

TREATMENT PLANTS

	Rates	Fringes
Laborers: (Treatment Plants)		
Projects Over $950,000:		
GROUP 1	$ 18.02	6.72
GROUP 2	$ 18.77	6.72
GROUP 3	$ 19.02	6.72
GROUP 4	$ 16.11	6.72
Projects Under $950,000:		
GROUP 1	$ 16.27	6.72
GROUP 2	$ 17.02	6.72
GROUP 3	$ 17.27	6.72
GROUP 4	$ 14.54	6.72

LABORER CLASSIFICATIONS

GROUP 1: Construction; Asbestos & Hazardous Waste Technician; Carpenter Tender; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Concrete; Damp Proofer Below Grade; Demolition & Remodeling, Excluding Demolition of an entire Structural System; Drill Runner Tender; Dump Person - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker- Corker; Hydro Blast or Waterblaster; Joist Handler; Mason Tender; Material Handler - Power Buggy; Mortar Mixer - Cement or any other Substitute material or Composition; Pipe Handler; Pneumatic & Electric Tools, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Remote Control Tamper; Signal Person; Snow Blower Operator; Swing Stage Line Scaffold (Not including "Patent" Scaffolding); Torchperson - Gas, Electric, Thermal or similar device

GROUP 2: Caisson Work; Mounted Wall Saw Operator; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Pipe Rehab Technician (Including Cleaning, Cutting, Cameraing, etc.); Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; & Underpinning

GROUP 3: Driller for Blasting Purposes; Dynamite Blaster or substitute products Tovel TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 4: Flagperson

LABO0563-007 05/01/2002

HEAVY, SEWER & WATER LINES

	Rates	Fringes
Laborers:		
AREA 1:		
GROUP 1	$ 22.89	6.21
GROUP 2	$ 23.09	6.21
GROUP 3	$ 23.24	6.21
GROUP 4	$ 23.34	6.21
GROUP 5	$ 23.59	6.21
GROUP 6	$ 24.89	6.21
AREA 2:		
GROUP 1	$ 22.17	5.96
GROUP 2	$ 22.37	5.96
GROUP 3	$ 22.52	5.96
GROUP 4	$ 22.62	5.96
GROUP 5	$ 22.87	5.96
GROUP 6	$ 24.17	5.96
AREA 3:		
GROUP 1	$ 21.62	6.51
GROUP 2	$ 21.82	6.51
GROUP 3	$ 21.97	6.51
GROUP 4	$ 18.99	5.86
GROUP 5	$ 22.32	6.51
GROUP 6	$ 23.62	6.51
AREA 4:		
GROUP 1	$ 18.54	5.86
GROUP 2	$ 18.74	5.86

GROUP 3	$ 18.89	5.86
GROUP 5	$ 19.24	5.86
GROUP 6	$ 20.54	5.86
AREA 5:		
GROUP 1	$ 19.59	5.96
GROUP 2	$ 19.79	5.96
GROUP 3	$ 19.94	5.96
GROUP 4	$ 20.04	5.96
GROUP 5	$ 20.29	5.96
GROUP 6	$ 21.59	5.96
AREA 6:		
GROUP 1	$ 15.74	5.21
GROUP 2	$ 15.94	5.21
GROUP 3	$ 16.09	5.21
GROUP 4	$ 16.19	5.21
GROUP 5	$ 16.44	5.21
GROUP 6	$ 17.74	5.21
AREA 7:		
GROUP 1	$ 14.44	5.16
GROUP 2	$ 14.64	5.16
GROUP 3	$ 14.79	5.16
GROUP 4	$ 14.89	5.16
GROUP 5	$ 14.03	5.16
GROUP 6	$ 15.14	5.16

AREA DESCRIPTIONS

AREA 1 (District 1): ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

AREA 2 (District 2A): ST. LOUIS COUNTY (South of T. 55 N):

AREA 3 (District 2B): ST. LOUIS COUNTY (North of T. 55 N)

AREA 4 (District 3A): BENNTON & STEARNS COUNTIES

AREA 5 (District 3B): HOUSTON & OLMSTED COUNTIES

AREA 6 (District 4): CLAY (Excluding City Limits of Moorhead) & POLK (Excluding City Limits of East Grand Forks) COUNTIES

AREA 7 (ND DC): CLAY (City Limits of Moorhead) and POLK (City Limits of East Grand Forks) COUNTIES

LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking

Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; Tunnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO0580-002 04/19/1999

CLAY (Moorhead) & POLK (East Grand Forks) COUNTIES

	Rates	Fringes
Laborer (Treatment Plants) Common Laborer; Concrete Bucket; Power Tool Operator; Mortar Mixer; Brick & Plasterers' Tender; Jackhammer Work; Hod Carrier; Non-Metallic Pipe Layer; Gas Line Wrapping or Taping; Cutting Torch for Demolition; Sandblaster & Gunnite Pot Tender; & Hose Tender	$ 14.05	4.34

LABO1091-002 05/01/1998

ST. LOUIS COUNTY (South of T 55 N)

	Rates	Fringes

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  Laborers: (Treatment Plants)
    GROUP 1.....................$ 15.95             5.39
    GROUP 2.....................$ 16.10             5.39
    GROUP 3.....................$ 16.35             5.39
    GROUP 4.....................$ 16.65             5.39
    GROUP 5.....................$ 14.05             5.39

  LABORER CLASSIFICATIONS

  GROUP 1:  General; Carpenter Tender; Concrete Laborer; Damp
  Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt,
  Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker -
  Corker; Joist Handler; Rebar; Snow Blower Operator;
  Signalperson; Material Handler (All types Power Buggy); Fire
  Control; Asbestos Removal; & Hazardous Waste

  GROUP 2:  Chain Saw Operator; Concrete Saw, Drill Operator;
  Concrete Vibrator; Demolition & Wrecking, Excluding
  Remodeling; Gunite, Sandblasting Machine Operator; Mason
  Tender; Mortar Mixer - Cement or any other substitute
  material or composition; Pipe Handler; Pneumatic & Electric
  Tools, Jackhammer, Paving Buster, Chipping Hammer, Tamper
  Operator, etc.; Swing Stage Line Scaffold (not including
  "patent" scaffolding); Torchman - Gas, Electric, Thermal or
  similar device; & Hydroblast

  GROUP 3:  Caisson Work; Nozzle Operator - Gunite, Cement,
  Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter &
  Driver, Heavy Building Excavation; Underground Work - Open
  Ditch or Excavation 8' Below Grade; Underpinning; & Hod
  Carrier

  GROUP 4:  Driller for Blasting Purposes; Dynamite Blasters or
  substitute products Tovex TR, Water, Gas, Gel, Bristar,
  Silent Dynamite, etc.; Asbestos Abatement Worker; & Hazardous
  Waste Worker

  GROUP 5:  Flagperson
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LABO1091-004 05/01/2002

ST. LOUIS COUNTY (South of TR 55)

                                    Rates          Fringes

  Laborer (Asbestos Abatement)...$ 20.80             7.41

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LABO1091-005 05/01/2002

ST. LOUIS COUNTY (South of T. 55 N)

                                    Rates          Fringes

  Laborers: (Heavy, Sewer &
  Water Lines)
    GROUP 1.....................$ 22.17             5.96
    GROUP 2.....................$ 22.37             5.96
    GROUP 3.....................$ 22.52             5.96
    GROUP 4.....................$ 22.62             5.96
    GROUP 5.....................$ 22.87             5.96
    GROUP 6.....................$ 24.17             5.96
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LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; unnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO1097-002 05/01/2001

POLK COUNTY (Excluding the city limits of East Grand Forks):

	Rates	Fringes
Laborers: (Treatment Plants) Projects $760,000 & over, including Mechanical & Electrical:		

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      GROUP 1...................$ 15.68             5.06
      GROUP 2...................$ 16.08             5.06
      GROUP 3...................$ 16.28             5.06
      GROUP 4...................$ 13.98             5.06
    Projects under $760,000
    including Mechanical &
    Electrical:
      GROUP 1...................$ 13.48             5.06
      GROUP 2...................$ 13.67             5.06
      GROUP 3...................$ 13.84             5.06
      GROUP 4...................$ 11.88             5.06

  LABORER CLASSIFICATIONS

  GROUP 1:  Construction; Carpenter Tender; Concrete; Damp
  Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete &
  Cement; Heater Tender; Hot Tar Caulker - Corker; Joist
  Handler; Material Handler - Power Buggy; Rebar; Signal
  Person; Snow Blower; Chain Saw; Concrete Vibrator; Demolition
  & Wrecking, Excluding Remodeling; Mason Tender; Mortar Mixer
  - Cement or Any Other Substitute Material or  Composition;
  Pipe Handler; Pneumatic & Electric Tool,    Jackhammer,
  Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing
  Stage Line Scaffold (Not including "Patent"    Scaffolding);
  & Torch Person - Gas, Electric, Thermal or similar device;
  Scrapping, Sweeping & Clean-up; Skid Steer, Forklift
  (Incidental Use)

  GROUP 2:  Creosote Handler; Caisson Work; Concrete Saw Drill;
  Nozzle Operator - Gunite, Cement, Sandblasting;  Pipelayer;
  Sheeting Setter & Driver, Heavy Building  Excavation;
  Underground Work - Open Ditch or Excavation 8'  Below Grade;
  Underpinning; & High Pay/Low Pay - 40 ft. over or  Under
  Ground Floor without Conventional Floor Areas; Pipe- Rehab
  Technician, including Cleaning, Cutting, Camering, etc.;
  Wall Mounted Saw Operator

  GROUP 3:  Driller for Blasting Purposes; Dynamite Blaster or
  substitute products; & Tovex TR, Water, Gas, Gel, Bristar,
  Silent Dynamite, etc.

  GROUP 4:  Flagperson
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LABO1097-004 05/01/2001

ST. LOUIS COUNTY (North of T 55 N)

                                    Rates          Fringes

  Laborers: (Treatment Plants)
    GROUP 1...................$ 19.67             5.81
    GROUP 2...................$ 20.07             5.81
    GROUP 3...................$ 20.37             5.81
    GROUP 4...................$ 17.77             5.81
    GROUP 5...................$ 21.67             5.81

  LABORERS CLASSIFICATIONS

  GROUP 1 - Construction; Carpenter Tender; Concrete; Damp
  Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete &
  Cement; Heater Tender; Hot Tar Caulker - Corker; Joist
  Handler; Material Handler - Power Buggy; Rebar; Signal
  Person; & Snow Blower Operator; Chain Saw Operator; Concrete
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Vibrator; Demolition & Wrecking, Excluding Remodeling; Mason Tender; Mortar Mixer - Cement or Any Other Substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including "Patent" Scaffolding); & Torch Person - Gas, Electric, Thermal or similar device; Scrapping, Sweeping & Clean-up; Skid Steer, Forklift (Incidental Use)

GROUP 2 - Creosote Handler; Caisson Work; Concrete Saw Drillr; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; Underpinning; & High Pay/Low Pay - 40 ft. Over or Under Ground Floor without Conventional Floor Areas; Pipe-Rehab Technician, including Cleaning, Cutting, Camering, etc.; Wall Mounted Saw Operator

GROUP 3 - Driller for Blasting Purposes; Dynamite Blaster or substitute products; & Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 4: Flagperson

GROUP 5: Refractory worker

LABO1097-007 05/01/2002

POLK COUNTY (Excluding the city limits of East Grand Forks); & ST. LOUIS COUNTY (N. of TR 55, but excluding a 20-mile radius of Grand Forks, North Dakota)

	Rates	Fringes
Laborer (Asbestos Abatement)	$ 20.80	7.41

PAIN0061-006 05/01/2002

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
GROUP 1	$ 26.25	9.38
GROUP 2	$ 26.25	9.28
GROUP 3	$ 19.69	9.28
GROUP 4	$ 27.00	9.38

PAINTER CLASSIFICATIONS

GROUP 1: Brush; Paperhanger

GROUP 2: Drywall Finisher

GROUP 3:- Drywall Sander

GROUP 4: Sandblaster; Spray; Swing Stage; Boatswain Chair; Window Jack; Safety Belt; Erected Structural Steel; Bridges; & Application of Epoxy Materials & Materials containing over 50% Creosote

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PAIN0106-009 05/01/2001

ST LOUIS COUNTY

	Rates	Fringes
Glazier	$ 20.11	7.24+a

FOOTNOTE:

a. 1 to 4 years' service - 1 week's paid vacation; 5 to 11 years' service - 2 weeks' paid vacation; 11 years' service or more - 3 weeks' paid vacation

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PAIN0106-010 05/01/2001

ST. LOUIS COUNTY

	Rates	Fringes
Painters:		
New:		
Brush, Roller	$ 22.73	7.73
Paperhanger, Spray, Steel, Taper	$ 23.33	7.73
REPAINT:		
Brush, Roller	$ 21.23	7.73
Paperhanger, Spray, Steel, Taper	$ 21.83	7.73

PAIN0386-009 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & East of a line drawn between the town of Santiago in Sherburne County and the town of Clearwater in Wright County) & WRIGHT COUNTIES

	Rates	Fringes
Painters:		
Brush; Roller; & Paperhanger	$ 25.50	10.13
Spray; Steel; Sandblaster; Swing Stage & Epoxy	$ 26.25	10.13

PAIN0386-010 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & east of a line drawn between the town of Santiago, Sherburne County and the town of Clearwater, Wright County) & WRIGHT COUNTIES

	Rates	Fringes
Drywall		
Finisher	$ 24.93	10.60
Sander	$ 18.70	10.60

PAIN0681-008 05/01/2003

HOUSTON & OLMSTED COUNTIES

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                                    Rates          Fringes

  Drywall
    Finisher....................$ 22.85             8.18
    Sander......................$ 17.14             8.18

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PAIN0880-001 05/01/2002

                                    Rates          Fringes

  Sign Painter..................$ 21.12         2.07+a+b

  FOOTNOTES:

  a. 8 Paid Holidays:  New Year's Day; Memorial Day;
  Independence Day; Labor Day; Thanksgiving Day; the Day After
  Thanksgiving; the last working Day Before Christmas; &
  Christmas Day

  b. Vacation Pay:  3 years  service - 2 weeks paid vacation; 6
  years service - 3 weeks paid vacation; 15 years service - 4
  weeks paid vacation
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PAIN1324-005 06/01/2002

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN,
HOUSTON,  ISANTI, OLMSTED, POLK, RAMSEY, SCOTT, SHERBURNE,
STEARNS,  WASHINGTON & WRIGHT COUNTIES

                                    Rates          Fringes

  Glazier.......................$ 27.36            10.14

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PLAS0265-004 06/01/2000

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,
SCOTT,  SHERBURNE, WASHINGTON & WRIGHT COUNTIES

                                    Rates          Fringes

  Plasterer.....................$ 24.88             8.35

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PLAS0633-033 05/01/2002

ST. LOUIS COUNTY (South of T 55N)

                                    Rates          Fringes

  Cement Mason (Treatment
  Plants).......................$ 22.79             9.30

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PLAS0633-034 05/01/2002

HOUSTON & OLMSTED COUNTIES

                                    Rates          Fringes

  Cement Mason (Treatment
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Plants).....$ 26.51 3.80

PLAS0633-035 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,
SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 27.34	9.31

PLAS0633-036 05/01/2002

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 21.59	8.21

PLAS0633-037 05/01/2002

ST. LOUIS COUNTY

	Rates	Fringes
Plasterer	$ 23.27	9.30

PLAS0633-038 06/01/2002

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Plasterer	$ 26.85	3.35

PLAS0633-039 05/01/2002

ST. LOUIS COUNTY (South of T 55N)

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 24.93	9.30

PLAS0633-040 05/01/2000

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,
SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 26.14	9.31

PLAS0633-041 05/01/2002

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 21.59	8.21

PLAS0633-042 05/01/2002

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 26.51	3.80

PLAS0633-044 05/01/2002

POLK COUNTY

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 20.79	6.96

PLAS0633-045 05/01/2002

BENTON, CLAY & POLK COUNTIES

	Rates	Fringes
Plasterer	$ 19.59	5.91

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* PLUM0006-005 08/01/2003

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 30.86	10.30

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* PLUM0011-007 05/01/2003

ST. LOUIS COUNTY (South of an east-west line drawn through Cotton)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 28.45	10.55

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* PLUM0015-005 05/01/2003

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a

line running northeasterly from the point of Wright County that lies furthest north to that point of Mille Lacs County that is south by west) & WRIGHT COUNTIES

	Rates	Fringes
Plumber	$ 31.27	11.86+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0015-006 05/01/2003

BENTON & STEARNS COUNTIES

	Rates	Fringes
Plumber	$ 27.77	12.04+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0034-005 05/01/2003

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes
Plumber	$ 30.93	21.21+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0126-005 05/15/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Plumber and Steamfitter		
Mechanical Projects $2,000,000 and above	$ 28.29	8.31
Mechanical Projects under $2,000,000	$ 25.89	8.31

PLUM0417-002 01/01/2003

ANOKA, DAKOTA, HENNEPIN, RAMSEY, SCOTT & WASHINGTON COUNTIES

	Rates	Fringes
Sprinkler Fitter	$ 30.97	11.81+a

FOOTNOTE:
a. 6 Paid Holidays: Memorial Day; July 4th; Friday before Labor Day; Labor Day; Columbus Day; & Thanksgiving Day

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PLUM0455-006 05/01/2002

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes

Plumber and Steamfitter.....$ 31.22 10.64

PLUM0539-006 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a line running North-Easterly from the point of Wright Co.that lies furthest North to that point of Mille Lacs that is South by West) & WRIGHT COUNTIES

	Rates	Fringes
Pipefitter.....	$ 31.30	10.70

PLUM0539-010 05/01/2002

BENTON, SHERBURNE (West of a line running North-Easterly from point of Wright Co. lies furthest North to point of Mille Lacs that is South by West) & STEARNS COUNTIES

	Rates	Fringes
Pipefitter.....	$ 24.71	13.03

PLUM0589-005 06/01/2002

ST. LOUIS COUNTY (North of an East-West line drawn through Cotton)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	$ 24.56	12.13

ROOF0096-016 06/01/2002

	Rates	Fringes
Roofers:		
Houston County.....	$ 18.93	5.30
Olmsted County.....	$ 19.86	5.30

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* ROOF0096-017 07/01/2003

ST. LOUIS COUNTY (South of Hwy 16, excluding city of Forbes)

	Rates	Fringes
Roofer.....	$ 24.70	9.15

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* ROOF0096-018 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI (South of State Highway #95, including Cambridge), RAMSEY, SCOTT, WASHINGTON & WRIGHT (South of County Road #39) COUNTIES

	Rates	Fringes

Roofer.....$ 28.19 9.75+a

FOOTNOTE:
a. 1 Paid Holiday: Labor Day

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* ROOF0096-019 09/30/2002

BENTON, ISANTI (North of State Highway #95, excluding Cambridge), SHERBURNE, STEARNS & WRIGHT (North of Wright County Road #39, from South Haven to Monticello, including both towns) COUNTIES

	Rates	Fringes
Roofer	$ 23.70	6.70

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* ROOF0096-020 09/30/2002

ST. LOUIS COUNTY (Northern two-thirds)

	Rates	Fringes
Roofer	$ 20.40	5.70

ROOF0214-002 04/01/1998

CALY & POLK

	Rates	Fringes
Roofer	$ 10.83	

SFMN0669-004 04/01/2003

BENTON, CARVER, CHISAGO, CLAY, HOUSTON, ISANTI, OLMSTED, POLK, SHERBURNE, ST. LOUIS, STEARNS & WRIGHT COUNTIES

	Rates	Fringes
Sprinkler Fitter	$ 29.06	8.10

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* SHEE0010-021 05/01/2003

BENTON, SHERBURNE & STEARNS COUNTIES

	Rates	Fringes
Sheet Metal Worker	$ 27.32	11.28

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* SHEE0010-022 06/01/2003

HE25

POLK COUNTY

	Rates	Fringes

Sheet Metal Worker.....$ 19.51 8.32

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* SHEE0010-023 05/01/2003

ST. LOUIS COUNTY (Southern one-third)

	Rates	Fringes
Sheet Metal Worker.....	$ 26.45	12.60

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* SHEE0010-024 05/01/2003

ST. LOUIS COUNTY (Northern two-thirds)

	Rates	Fringes
Sheet Metal Worker.....	$ 25.41	12.01

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* SHEE0010-025 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,
SCOTT, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Sheet Metal Worker.....	$ 31.15	12.42+a

FOOTNOTE:
a. Paid Holiday: Labor Day

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* SHEE0010-026 05/01/2003

OLMSTED COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 26.58	10.60

SHEE0010-027 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 22.27	8.28

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* SHEE0010-029 06/08/2003

CLAY COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 19.49	8.65

TEAM0132-006 05/01/2000

CHISAGO (Northern half) AND ISANTI COUNTIES

	Rates	Fringes
Truck Driver (Treatment Plants)	$ 23.08	

TEAM0160-009 05/01/2002

ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Truck drivers: (Heavy, Sewer & Water Lines)		
AREA 1:		
GROUP 1	$ 21.60	6.50
GROUP 2	$ 21.05	6.50
GROUP 3	$ 20.95	6.50
GROUP 4	$ 20.70	6.50
AREA 2:		
GROUP 1	$ 21.40	6.50
GROUP 2	$ 20.85	6.50
GROUP 3	$ 20.75	6.50
GROUP 4	$ 20.50	6.50
AREA 3:		
GROUP 1	$ 19.60	6.50
GROUP 2	$ 19.05	6.50
GROUP 3	$ 18.95	6.50
GROUP 4	$ 18.75	6.50
AREA 4:		
GROUP 1	$ 17.52	6.50
GROUP 2	$ 17.01	6.50
GROUP 3	$ 16.86	6.50
GROUP 4	$ 16.86	6.50

AREA DESCRIPTIONS

AREA 1 (District 1): ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

AREA 2 (DISTRICT 2): ST. LOUIS COUNTY

AREA 3 (District 3): HOUSTON & OLMSTED COUNTIES

AREA 4 (District 4: BENTON, CHISAGO (North of T. 34-N), CLAY, ISANTI, POLK & STEARNS COUNTIES

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Boom; Mechanic; Off-Road, including Articulated Dump Truck; Tractor Trailer; Winch Truck

GROUP 2 - Tri Axles (Including Four Axles)

GROUP 3 - Bituminous Distributor; Bituminous Distributor (One man operation); Tandem Axles; & Single Axles

GROUP 4 - Bituminous Distributor Spray Operator (Rear and Oiler); Dumpman; Pilot Car; Self-propelled Packer; Slurry

Operator; Tank Truck Tender (Gas, Oil, Road Oil & Water);
Tractor Operator (Wheel type used for any purpose)

THE FOLLOWING CLASSIFICATIONS SHALL COME UNDER THE
APPROPRIATE AXLE RATE WAGE GROUP:
"A" Frame; Dry Batch Hauler; Ready-Mix Concrete; Slurry;
Tank (Gas, Oil, Road Oil & Water)

TEAM0221-004 06/01/2002

	Rates	Fringes
Truck drivers: (Landscape)		
Single Axles & Farm Tractors	$ 14.20	6.20
Truck drivers:		
Tandem Axles	$ 14.35	6.20
Truck-Train Combination	$ 14.50	6.20

TEAM0346-004 05/01/2003

ANOKA, CARVER, CHISAGO (Southern half), DAKOTA, HENNEPIN,
RAMSEY, ST. LOUIS, SCOTT, SHERBURNE, WASHINGTON & WRIGHT
COUNTIES

	Rates	Fringes
Truck drivers: (Treatment Plants)		
GROUP 1	$ 22.65	6.75
GROUP 2	$ 22.10	6.75
GROUP 3	$ 22.00	6.75
GROUP 4	$ 21.75	6.75

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Boom Truck

GROUP 2: Ready Mix, Tractor Trailor

GROUP 3: Fork Lift, Mechanic, Tandem or 3 axle Truck

GROUP 4: Dumpman, Farm Tractor, Single or 2 axle Truck

TEAM0405-003 05/01/1999

	Rates	Fringes
Truck drivers: (Treatment Plants)		
Houston County	$ 15.49	
Truck drivers:		
Olmsted County	$ 16.94	

TEAM0563-003 05/01/1999

BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES

	Rates	Fringes

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  Truck drivers: (Treatment
  Plants)
    Projects $950,000 & over....$ 15.59            15.59

  Truck drivers:
    Projects under $950,000.....$ 13.84

-----------------------------------------------------------------
TEAM0580-003 04/19/1999

                                     Rates          Fringes

  Truck Driver (Treatment
  Plants).......................$ 14.05

-----------------------------------------------------------------
TEAM1097-002 05/01/2001

POLK COUNTY (Excluding the city limits of East Grand Forks)

                                     Rates          Fringes

  Truck drivers: (Treatment
  Plants)
    S750,000 & over
    including Electrical &
    Mechanical..................$ 15.68
    Under $760,000,
    including   Electrical
    & Mechanical................$ 13.48

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WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.
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Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

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In the listing above, the "SU" designation means that rates
listed under the identifier do not reflect collectively
bargained wage and fringe benefit rates.  Other designations
indicate unions whose rates have been determined to be
prevailing.

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            WAGE DETERMINATION APPEALS PROCESS

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

*  an existing published wage determination
*  a survey underlying a wage determination
*  a Wage and Hour Division letter setting forth a position on
   a wage determination matter
*  a conformance (additional classification and rate) ruling
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On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

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END OF GENERAL DECISION

General Decision Number: MN030061 05/14/2004 MN61

Superseded General Decision Number: MN020061

State: Minnesota

Construction Types: Heavy (Heavy, Sewer and Water Line, and Treatment Plant)

Counties: Anoka, Benton, Carver, Chisago, Clay, Dakota, Hennepin, Houston, Isanti, Olmsted, Polk, Ramsey, Scott, Sherburne, St Louis, Stearns, Washington and Wright Counties in Minnesota.

CLAY & POLK COUNTIES

TREATMENT PLANTS, HEAVY, SEWER & WATER LINES

Modification Number	Publication Date
0	06/13/2003
1	01/02/2004
2	04/09/2004
3	04/23/2004
4	05/14/2004

ASBE0034-006 06/01/2003

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)	$ 31.04	13.24

ASBE0049-005 06/01/2002

ST. LOUIS COUNTY

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)	$ 28.33	8.93

ASBE0133-002 07/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishings to all types of mechanical systems)	$ 22.43	7.60

ASBE0205-011 05/01/1998

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems)	$ 18.21	3.30

BOIL0647-004 07/01/2003

	Rates	Fringes
Boilermaker	$ 27.45	12.31

BRMN0001-026 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (City of Elk River), WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 29.69	9.75

BRMN0001-027 05/01/2003

BENTON, SHERBURNE (Excluding city of Elk River) & STEARNS COUNTIES

	Rates	Fringes
Bricklayer		
Bricklayer, Blocklayer, Stonemason	$ 28.20	9.75

BRMN0001-028 05/01/2003

Treatment Plants

BENTON & STEARNS COUNTIES

	Rates	Fringes
Cement Mason		
Benton & Stearns Counties	$ 27.75	9.65
Plasterer		
Stearns County	$ 27.75	9.65

BRMN0001-029 05/01/2003

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, HOUSTON, ISANTI, POLK, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS (Excluding Duluth and south of Township Line 55), STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Tile Setter	$ 27.81	11.10

BRMN0001-030 05/01/2003

	Rates	Fringes
Tile Finisher	$ 23.57	9.55

BRMN0001-031 05/01/2003

	Rates	Fringes
Marble Setter	$ 29.69	9.75

BRMN0001-036 05/01/2003

	Rates	Fringes
Terrazzo Worker		
Base Machine	$ 28.84	9.65
Finisher	$ 28.51	9.65
Mechanic	$ 28.31	10.70

BRMN0003-005 05/01/2003

ST. LOUIS (South of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY

	Rates	Fringes
Bricklayer	$ 26.81	11.53

BRMN0003-006 05/01/2003

ST. LOUIS COUNTY (S. of a line between Townships 54 & 55 (2 miles north of Cotton)

	Rates	Fringes
Tile Layer	$ 23.06	10.00

BRMN0007-003 05/01/2003

HOUSTON COUNTY

	Rates	Fringes
Bricklayer		
Bricklayer, Blocklayer, Caulker, Cleaner, Pointer, Stonemason	$ 28.39	10.10

BRMN0008-008 05/01/2003

OLMSTED COUNTY

	Rates	Fringes
Bricklayer		
Bricklayer, Caulker, Cleaner, Pointer, Stonemason	$ 29.24	10.10

BRMN0008-009 05/01/2003

OLMSTED COUNTY

	Rates	Fringes
Tile Layer	$ 27.99	

BRMN0015-008 05/01/2003

CLAY AND POLK COUINTIES

	Rates	Fringes
Bricklayer	$ 26.80	10.00

BRMN0015-009 05/01/2003

CLAY COUNTY

	Rates	Fringes
Cement Mason	$ 25.60	9.90

BRMN0016-003 05/01/2003

ST. LOUIS (North of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY

	Rates	Fringes
Bricklayer	$ 26.11	12.20

CARP0087-006 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (Excluding St. Cloud & extending 5 miles beyond the city limits of St. Cloud), WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Carpenters: (Treatment Plants)		
Carpenter, Insulator, Piledriverman	$ 28.66	7.88

CARP0087-012 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON, AND WRIGHT COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)	$ 26.17	9.80

CARP0190-007 05/01/1997

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Lather	$ 22.45	7.04

CARP0190-009 06/01/2001

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Lather	$ 24.34	5.04

CARP0361-007 05/01/2001

ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY

	Rates	Fringes
Carpenter (Treatment Plants)	$ 20.54	9.00

CARP0361-010 05/01/2001

POLK & ST. LOUIS COUNTIES

	Rates	Fringes
Lather	$ 20.82	9.00

CARP0361-013 05/01/2001

ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY

	Rates	Fringes
Soft Floor Layer	$ 19.73	9.91

CARP0361-020 05/01/2002

ST LOUIS COUNTY (Southern 1/3 including Cotton, Floodwood, Fond Du Lac, and Proctor)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 22.51	10.96

CARP0361-021 05/01/2002

ST LOUIS COUNTY (Duluth)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 22.91	10.96

CARP0548-006 04/28/2002

ANOKA, BENTON, CARVER, CHISAGO, CLAY (Moorhead & up to 5 miles radius), DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, POLK (East Grand Forks & up to 5 miles radius), RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Millwright	$ 29.44	8.18

CARP0596-004 06/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (E. of Hwy #169, inclu. Zimmerman, Big Lake & Elk River), WASHINGTON & WRIGHT (S. of Hwy #12, inclu. Cokato, Buffalo & Monticello) COUNTIES

	Rates	Fringes
Soft Floor Layer	$ 25.44	9.73

CARP0606-003 05/01/2002

CLAY AND POLK COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 18.34	10.10

CARP0606-004 05/01/2002

ST. LOUIS COUNTY (Excluding Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft)

	Rates	Fringes

Carpenter (Treatment Plants)
Carpenter,
Piledriverman, Soft
Floor Layer.....$ 19.96 10.10

CARP0606-006 05/01/2002

POLK COUNTY (Excluding East Grand Forks and an area 5 miles outside city limits)

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants))	$ 16.49	8.96

CARP0606-010 05/01/2002

ST LOUIS COUNTY (Northeast 2/3 including Cook, Cusson, Ely; and Western part including Chisholm, Greaney, and Orr)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines)	$ 23.37	10.10

CARP0930-002 05/01/2002

BENTON AND STEARNS COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)	$ 21.79	9.58

CARP0930-004 05/01/2002

BENTON, SHERBURNE (Extreme NW portion, Including St. Cloud & extending 5 miles beyond the city limits of St. Cloud) & STEARNS COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants)	$ 20.66	7.23

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* CARP1176-002 05/01/2003

CLAY COUNTY (City of Moorhead & a radius of 5 miles NE & South of the city limits) & POLK COUNTY (East Grand Forks & an area 5 miles outside city limits)

	Rates	Fringes
Carpenter (Treatment Plants)...	$ 16.00	9.40
Piledriverman (Treatment Plants).....	$ 18.00	9.98

CARP1348-003 05/01/2000

CLAY (Excluding Moorhead & up to 5 miles radius), POLK (Excluding East Grand Forks & up to 5 miles radius) & ST. LOUIS COUNTIES

	Rates	Fringes
Millwright (Treatment Plants).....	$ 21.66	10.29

CARP1382-004 05/01/2002

OLMSTED COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	$ 23.43	6.88

CARP1382-008 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	$ 19.12	6.88

CARP1382-016 05/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	$ 22.09	8.83

ELEC0110-010 05/01/2002

ANOKA (Except Anoka & Fridley Townships & the cities of Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey & Spring Lake Park), CHISAGO, DAKOTA, ISANTI, RAMSEY, SHERBURNE (East of Becker & Santiago Townships) &

WASHINGTON COUNTIES

	Rates	Fringes
Cable splicer.....	$ 30.45	28.5%+5.77
Electrician.....	$ 29.45	28.5%+5.77

ELEC0110-011 03/01/1998

	Rates	Fringes
Communications System (SOUND, SIGNAL & COMMUNICATIONS WORK)		
Installer (Excluding Controller Work).....	$ 11.31	.34+a+b
Technician (Installation of Controller Only).....	$ 19.22	.58+a+b

FOOTNOTES:

a. 1 year's service - 5 days' paid vacation; 2 years' service - 10 days' paid vacation; 5 years' service - 12 days' paid vacation; 7 years' service - 14 days' paid vacation; 9 years' service - 16 days' paid vacation; 11 years' service - 18 days' paid vacation; 12 years' service - 20 days' paid vacation

b. 8 Paid Holidays: New Year's Day; Memorial Day; 4th of July; Labor Day; Thanksgiving Day; Day After Thanksgiving; the normal work day preceding Christmas Day; & Christmas Day

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ELEC0160-002 03/31/2002

	Rates	Fringes
Line Construction		
(1)Lineman; Cable Splicer; Dynamiter; Special Equipment Operator; & Technician.....	$ 27.51	10.01
(2) Equipment Operator.....	$ 23.66	8.90
(3) Groundman/Truck Driver; & Pole Treating Truck Driver.....	$ 19.26	7.64
LINE CLEARANCE:		
(4)Tree Trimmer; Tractor Operator.....	$ 18.44	7.40
(5) Groundman/Truck Driver.....	$ 12.91	5.81
(6) Groundman.....	$ 11.99	5.55

ELEC0242-007 06/01/2002

ST. LOUIS COUNTY (South part bounded on the north by the north line of Kelsey Township extended east & west)

	Rates	Fringes
Electrician.....	$ 26.14	49.5%

ELEC0292-006 05/01/2003

ANOKA (Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey, Spring Lake Park), BENTON AND SHERBURNE COUNTIES (East of Hwy 25 to Hwy 10 and an imaginary line straight West to the Missippi River), CARVER, HENNEPIN, SCOTT, AND WRIGHT COUNTIES

	Rates	Fringes
Cable splicer.....	$ 31.30	52.43%
Electrician.....	$ 30.30	52.43%

ELEC0292-010 05/01/2003

BENTON AND SHERBURNE COUNTIES (West of Hwy 25 to Hwy 10 and an imaginary line straight West to the Mississippi River), AND STEARNS COUNTY

	Rates	Fringes
Electricians:		
ELECTRICAL CONTRACTS		
$500,000 AND OVER:		
Cable Splicer.....	$ 31.30	52.43%
Electrician.....	$ 30.30	52.43%
ELECTRICAL CONTRACTS		
UNDER $500,000:		
Cable Splicer.....	$ 28.24	40.6%
Electrician.....	$ 27.24	40.6%

ELEC0294-008 06/01/2003

ST. LOUIS COUNTY (North part bounded on the south by the south line of Ellsburg Township, extended east & west)

	Rates	Fringes
Cable splicer.....	$ 26.90	53%
Electrician.....	$ 26.35	53%

ELEC0343-007 06/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Cable splicer	$ 25.72	15%+8.27
Electrician	$ 24.72	15%+8.27

ELEC1426-007 06/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Cable splicer	$ 21.60	12%+6.20
Electrician	$ 20.57	12%+6.20

ENGI0049-023 05/01/2003

	Rates	Fringes
Power Equipment Operator (Treatment Plants)		
GROUP 1	$ 30.84	9.35
GROUP 2	$ 30.50	9.35
GROUP 3	$ 29.09	9.35
GROUP 4	$ 28.75	9.35
GROUP 5	$ 28.58	9.35
GROUP 6	$ 27.07	9.35
GROUP 7	$ 25.95	9.35
GROUP 8	$ 23.94	9.35

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Operator; Truck & Crawler Crane with 200' of Boom & Over, including Jib ($.50 premium with 300' of Boom & over, including jib); & Tower Crane 250' & Over

GROUP 2 - Truck & Crawler Crane with 150' of Boom, up to but not including 200' of Boom, including Jib; & Tower Crane 200' & Over, Concrete Pump 164 ft Boom.

GROUP 3 - Traveling Tower Crane; Master Mechanic; Pile Driving Operator (when 3 drums are used); Truck & Crawler Crane, up to but not including 150' of Boom, including Jib; Derrick (Guy & Stiffleg); Tower Crane (Stationary) up to 200'; & All Terrain Vehicle Crane, Boom Truck over 100 ft.

GROUP 4 - Crawler Backhoe; Hoist Engineer (3 drums or more); Locomotive Operator; Overhead Crane Operator (inside building perimeter); & Tractor Operator with Boom

GROUP 5 - Air Compressor Operator 450 CFM or Over (2 or more machines); Pump Operator and/or Conveyor Operator (2 or more

machines); Mechanic; Pumpcrete or Complaco type Machine Operator; Forklift; Boom Truck up to 100 ft; Concrete Mixer Operator; Drill Rig - Heavy Rotary or Churn when used for Caisson Drilling for Elevator Cylinder or Building Construction; Front End Loader (Over 1 cu. yd.); Hoist Engineer (1 or 2 drums); Straddle Carrier Operator; Power Plant Engineer (100 KW & over on multiples equal to 100KW & over); Tractor Operator over D2; & Well Point Pump Op.

GROUP 6 - Concrete Batch Plant Operator; Gunite Operator; Tractor Operator D2 or similar size; & Front End Loader Operator, up to 1 cu. yd.

GROUP 7 - Air Compressor Operator 600 CFM or Over; Pump and/or Conveyor Operator; Brakeman; Pick-up Sweeper (1 cu. yd. & over Hopper capacity); Truck Crane Oiler; & Welding Machine Operator, Fireman temporary heat.

GROUP 8 - Mechanical Space Heater (Temporary Heat); Oiler or Greaser; & Elevator Operator

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* ENGI0049-024 05/01/2004

	Rates	Fringes
Power Equipment Operator (Heavy, Sewer & Water lines)		
AREA 1:		
Group 1:.....	$ 27.57	10.35
Group 2:.....	$ 27.02	10.35
Group 3:.....	$ 26.84	10.35
Group 4:.....	$ 26.72	10.35
Group 5:.....	$ 23.68	10.35
Group 6:.....	$ 22.47	10.35
AREA 2:		
Group 1:.....	$ 25.11	10.35
Group 2:.....	$ 24.66	10.35
Group 3:.....	$ 24.49	10.35
Group 4:.....	$ 24.36	10.35
Group 5:.....	$ 21.79	10.35
Group 6:.....	$ 20.92	10.35
AREA 3:		
Group 1:.....	$ 22.10	10.35
Group 2:.....	$ 21.17	10.35
Group 3:.....	$ 20.97	10.35
Group 4:.....	$ 20.86	10.35
Group 5:.....	$ 19.15	10.35
Group 6:.....	$ 18.55	10.35

AREA DESCRIPTIONS

AREA 1 (METRO): ANOKA, CARVER, CHISAGO (South of the Northern boundary of T.34-N & that part consisting substantially of the cities of Thomson, Cloquet, Scanlon & Carlton), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE (South of the northern boundary of T. 33-N & East of the Western boundary of R. 27-W), ST. LOUIS, WASHINGTON & WRIGHT (East of

& inclu. Hwy #25) COUNTIES

AREA 2 (EASTERN): BENTON (East of the Western right of way of HWY #10), CHISAGO (Remainder), HOUSTON, ISANTI, OLMSTED, SHERBURNE (Remainder), STEARNS (East of the Western right of way of Hwy #15), and WRIGHT (Remainder) COUNTIES

AREA 3 (WESTERN): BENTON (Remainder) and STEARNS (Remainder) COUNTIES

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Pilot; *Crane with over 135' Boom, excluding Jib; Dragline, Crawler, Hydraulic Backhoe and/or other similar equipment with Shovel-type Controls 3 cu. yds. & over Mfg. rated Cap.; & Pile Driving when 3 Drums are in use

GROUP 2 - Cableway; Concrete Mixer, Stationary Plant over 34E; Derrick (Guy or Stiffleg) (Power) (Skids or Stationary); Diver; Dragline, Crawler, Hydraulic Backhoe and/or similar equipment with Shovel-type Controls, up to 3 cu. yds. Mfg. rated cap.; Dredge or Engineers, Dredge (Power) & Engineer; Front End Loader, 5 cu. yds. & over; Grader or Motor Patrol, Finishing Earthwork & Bituminous; Locomotive Crane; Master Mechanic; Mixer (Paving) Concrete Paving, Road; Mole, including Power Supply; Mucking Machine, including Mucking Operations, Conway or similar type; Piledriving; Refrigeration Plant Engineer; Tandem Scraper; Tractor - Boom type; Truck Crane - Crawler Crane; & Tugboat 100 HP & over

GROUP 3 - Dual Tractor; Elevating Grader; Pumpcrete; Scraper-Struck Cap. 32 cu. yds. & over; & Self-propelled Traveling Soil Stabilizer

GROUP 4 - Air Track Rock Drill; Articulated Hauler Terex, Caterpillar or similar type; Asphalt Bituminous Stabilizer Plant; Automatic Road Machine (CMI or similar); Backfiller; Bituminous Roller (8 Tons & over); Bituminous Spreader & Finishing (Power); Boom Truck (Power operated Boom); Brokk or R.T.C. 750 Remote Control or Similar types with all attachments; Cat & Scraper; Cat Tractor with Rock Wagons or similar types; Challenger 75-D or 85-D when pulling Scraper or Bulldozer; Chip Harvester & Tree Cutter over 150 HP; Concrete Batch Plant; Concrete Mixer on jobsite over 14S; Concrete Mobile; Crushing Plant (Gravel & Stone) or Gravel Washing, Crushing & Screening Plant; Curb Machine; Directional Boring Machine; Dope Machine (Pipeline); Drill Rigs, Heavy Rotary or Churn or Cable Drill; Fork Lift or Straddle Carrier; Fork Lift or Lumber Stacker; Front End Loader, over 1 cu. yd.; Hoist Engineer (Power); Hydraulic Tree Planter; Launcherman (Tankerman or Pilot License); Lead Greaser; Locomotive; Mechanic; Milling, Grinding & Planing Machine; Morbark Tub Grinder or Similar Type; Multiple Machines, such as Air Compressors, Welding Machines, Generators, Pumps; Pavement Breaker or Tamping Machine (Power Driven) Mighty Mite or similar type; Pickup

Sweeper, 1 cu. yd. & over Hopper Cap.; Pipeline Wrapping, Cleaning or Bending Machine; Power Plant Engineer, 100 K.W.H. & over; Power Actuated Horizontal Boring Machine, over 6"; Pugmill; Rubber- tired Farm Tractor, Backhoe Attach.; Scraper, up to 32 cu. yds.; Skid Steer Loader, over 1 cu. yd. with Backhoe Attachment; Slip Form (Power Driven) (Paving); Tie Tamper & Ballast Machine; Tractor, Bulldozer; Tractor Operator, over 50 HP with Power Take-off; Trenching Machine (Sewer, Water, Gas); Well Point Installation; & Dismantling or Repair Mechanic

GROUP 5 - Air Compressor, 600 CFM or over; Bituminous Roller (Under 8 tons); Bituminous Rubber-tired Roller; Bituminous Spreader & Bituminous Finishing Machine Tender (Power); Concrete Distributor & Spreader Finishing Machine, Longitudinal Float, Joint Machine, & Spray; Concrete Saw (Multiple Blade) (Power Operated); Form Trench Digger (Power); Front End Loader, up to & incl. 1 cu. yd.; Grader (Motor Patrol); Gunite Gunall; Hydraulic Log Splitter; Loader (Barber Greene or similar type); Payhauler or similar type; Post Hole Driving Machine/Post Hole Augar; Power Actuated Auger & Boring Machine; Power Actuated Jack; Pump; Self-propelled Chip Spreader (Flaherty or similar); Sheep Foot Compactor with Blade - 200 HP & over; Shouldering Machine (Power) Apsco or similar type inclu. self-propelled Sand & Chip Spreader; Stump Chipper & Tree Chipper; Tractor Operator, Bulldozer, 50 HP or less; & Tree Farmer (Machine)

GROUP 6 - Challenger 75-D or 85-D when pulling Disk or Roller; Conveyor; Dredge Deck Hand; Fireman or Tank Car Heater; Gravel Screening Plant (Portable not Crushing or Washing); Greaser (Truck or Tractor); Leverman; Mechanic Tender; Mechanic, Space Heater (Temporary Heat); Oiler (Power Shovel, Crane, Dragline); Power Sweeper; Roller on Gravel Compaction; Self-propelled Vibrating Packer (35 HP & over); Sheep Foot Roller; Tractor, Wheel Type (over 50 HP); & Truck Crane Oiler

*CRANE OVER 135' BOOM, EXCLUDING JIB - $ .25 PREMIUM;
CRANE OVER 200' BOOM, EXCLUDING JIB - $ .50 PREMIUM

UNDERGROUND WORK:
UNNELS, SHAFTS, ETC. - $ .25 PREMIUM
UNDER AIR PRESSURE - $ .50 PREMIUM

HAZARDOUS WASTE PROJECTS (PPE Required):
LEVEL A - $1.25 PREMIUM
LEVEL B - $ .90 PREMIUM
LEVEL C - $ .60 PREMIUM

IRON0512-013 05/01/2003

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes

Ironworker.....$ 29.50 11.84

IRON0563-011 05/01/2003

ST. LOUIS COUNTY

	Rates	Fringes
Ironworker.....	$ 24.33	13.75

IRON0793-005 05/01/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Ironworker.....	$ 19.14	9.73

LABO0010-006 05/01/2002

	Rates	Fringes
Landscaper (Seeding, Sodding & Planting of evergreen & deciduous shrubs & trees).....	$ 13.34	5.05

LABO0132-009 01/01/2000

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborer (Asbestos Abatement)...	$ 19.16	6.62

LABO0132-013 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborers: (Treatment Plants)		
GROUP 1.....	$ 25.73	7.71
GROUP 2.....	$ 26.23	7.71
GROUP 3.....	$ 26.73	7.71

LABORERS CLASSIFICATIONS

GROUP 1 - Construction Craft Laborer; Flagperson/Traffic Control; Carpenter Tender; Concrete; Damp Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Material Handler - Power Buggy; Rebar; Snow Blower Operator; Signal Person; Asbestos and Hazardous Waste Technician; Hydro Blast or Waterblast; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Demolition & Remodeling, Excluding Demolition of an entire Structural System; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including Patent" Scaffolding); Torchman - Gas, Electric, Thermal or similar device; & Remote Control Tamper

GROUP 2 - Caisson Work; Mounted Wall Saw Operator; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Pipe Rehab Technical, including Cleaning, Cutting, Cameraing, etc.; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; & Underpinning

GROUP 3 - Driller for Blasting purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

LABO0132-016 06/01/1999

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Plasterer tender (Treatment Plants)	$ 23.85	5.59

LABO0405-003 05/01/1999

HOUSTON & OLMSTED COUNTIES

TREATMENT PLANTS

	Rates	Fringes
Laborers:		
HOUSTON COUNTY		
Group 1	$ 15.49	4.89
Group 2	$ 16.19	4.89
Group 3	$ 13.66	4.89
OLMSTED COUNTY		
Group 1	$ 16.94	4.89
Group 2	$ 17.64	4.89
Group 3	$ 15.06	4.89

LABORER CLASSIFICATIONS

GROUP 1: Construction; General; Carpenter Tender; Concrete; Damp Proofer Below Grade; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Firewatch; Joist Handler; Material Handler - Power Buggy; Rebar; Signalperson; Snow Blower Operator; Demolition & Wrecking, Including Remodeling; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (not including "Patent" Scaffolding); & Remote Control Tamper

GROUP 2: Pipe Rehab Technician, including Cleaning, Cutting, Cameraing, etc.; Caisson Work; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work-Open Ditch or Excavation 8' Below Grade; Underpinning; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Driller for Blasting Purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 3: Flagperson

LABO0405-005 05/01/2002

	Rates	Fringes
Laborers: (Heavy, Sewer & Water Lines)		
GROUP 1	$ 19.59	5.96
GROUP 2	$ 19.79	5.96
GROUP 3	$ 19.94	5.96
GROUP 4	$ 20.04	5.96
GROUP 5	$ 20.29	5.96
GROUP 6	$ 21.59	5.96

LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail

Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; Tunnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO0563-003 05/01/2001

BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES

TREATMENT PLANTS

	Rates	Fringes
Laborers: (Treatment Plants)		
Projects Over $950,000:		
GROUP 1	$ 18.02	6.72
GROUP 2	$ 18.77	6.72
GROUP 3	$ 19.02	6.72
GROUP 4	$ 16.11	6.72
Projects Under $950,000:		
GROUP 1	$ 16.27	6.72
GROUP 2	$ 17.02	6.72
GROUP 3	$ 17.27	6.72
GROUP 4	$ 14.54	6.72

LABORER CLASSIFICATIONS

GROUP 1: Construction; Asbestos & Hazardous Waste Technician; Carpenter Tender; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Concrete; Damp

Proofer Below Grade; Demolition & Remodeling, Excluding Demolition of an entire Structural System; Drill Runner Tender; Dump Person - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker- Corker; Hydro Blast or Waterblaster; Joist Handler; Mason Tender; Material Handler - Power Buggy; Mortar Mixer - Cement or any other Substitute material or Composition; Pipe Handler; Pneumatic & Electric Tools, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Remote Control Tamper; Signal Person; Snow Blower Operator; Swing Stage Line Scaffold (Not including "Patent" Scaffolding); Torchperson - Gas, Electric, Thermal or similar device

GROUP 2: Caisson Work; Mounted Wall Saw Operator; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Pipe Rehab Technician (Including Cleaning, Cutting, Cameraing, etc.); Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; & Underpinning

GROUP 3: Driller for Blasting Purposes; Dynamite Blaster or substitute products Tovel TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 4: Flagperson

LABO0563-007 05/01/2002

HEAVY, SEWER & WATER LINES

	Rates	Fringes
Laborers:		
AREA 1:		
GROUP 1	$ 22.89	6.21
GROUP 2	$ 23.09	6.21
GROUP 3	$ 23.24	6.21
GROUP 4	$ 23.34	6.21
GROUP 5	$ 23.59	6.21
GROUP 6	$ 24.89	6.21
AREA 2:		
GROUP 1	$ 22.17	5.96
GROUP 2	$ 22.37	5.96
GROUP 3	$ 22.52	5.96
GROUP 4	$ 22.62	5.96
GROUP 5	$ 22.87	5.96
GROUP 6	$ 24.17	5.96
AREA 3:		
GROUP 1	$ 21.62	6.51
GROUP 2	$ 21.82	6.51
GROUP 3	$ 21.97	6.51
GROUP 4	$ 18.99	5.86
GROUP 5	$ 22.32	6.51
GROUP 6	$ 23.62	6.51
AREA 4:		
GROUP 1	$ 18.54	5.86
GROUP 2	$ 18.74	5.86

GROUP 3	$ 18.89	5.86
GROUP 5	$ 19.24	5.86
GROUP 6	$ 20.54	5.86
AREA 5:		
GROUP 1	$ 19.59	5.96
GROUP 2	$ 19.79	5.96
GROUP 3	$ 19.94	5.96
GROUP 4	$ 20.04	5.96
GROUP 5	$ 20.29	5.96
GROUP 6	$ 21.59	5.96
AREA 6:		
GROUP 1	$ 15.74	5.21
GROUP 2	$ 15.94	5.21
GROUP 3	$ 16.09	5.21
GROUP 4	$ 16.19	5.21
GROUP 5	$ 16.44	5.21
GROUP 6	$ 17.74	5.21
AREA 7:		
GROUP 1	$ 14.44	5.16
GROUP 2	$ 14.64	5.16
GROUP 3	$ 14.79	5.16
GROUP 4	$ 14.89	5.16
GROUP 5	$ 14.03	5.16
GROUP 6	$ 15.14	5.16

AREA DESCRIPTIONS

AREA 1 (District 1): ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

AREA 2 (District 2A): ST. LOUIS COUNTY (South of T. 55 N):

AREA 3 (District 2B): ST. LOUIS COUNTY (North of T. 55 N)

AREA 4 (District 3A): BENNTON & STEARNS COUNTIES

AREA 5 (District 3B): HOUSTON & OLMSTED COUNTIES

AREA 6 (District 4): CLAY (Excluding City Limits of Moorhead) & POLK (Excluding City Limits of East Grand Forks) COUNTIES

AREA 7 (ND DC): CLAY (City Limits of Moorhead) and POLK (City Limits of East Grand Forks) COUNTIES

LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an

entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; Tunnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO0580-002 04/19/1999

CLAY (Moorhead) & POLK (East Grand Forks) COUNTIES

	Rates	Fringes
Laborer (Treatment Plants)		
Common Laborer; Concrete Bucket; Power Tool Operator; Mortar Mixer; Brick & Plasterers' Tender; Jackhammer Work; Hod Carrier; Non-Metallic Pipe Layer; Gas Line Wrapping or Taping;		

Cutting Torch for
Demolition; Sandblaster
& Gunnite Pot Tender; &
Hose Tender.....$ 14.05 4.34

LABO1091-002 05/01/1998

ST. LOUIS COUNTY (South of T 55 N)

	Rates	Fringes
Laborers: (Treatment Plants)		
GROUP 1	$ 15.95	5.39
GROUP 2	$ 16.10	5.39
GROUP 3	$ 16.35	5.39
GROUP 4	$ 16.65	5.39
GROUP 5	$ 14.05	5.39

LABORER CLASSIFICATIONS

GROUP 1: General; Carpenter Tender; Concrete Laborer; Damp Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Rebar; Snow Blower Operator; Signalperson; Material Handler (All types Power Buggy); Fire Control; Asbestos Removal; & Hazardous Waste

GROUP 2: Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Demolition & Wrecking, Excluding Remodeling; Gunite, Sandblasting Machine Operator; Mason Tender; Mortar Mixer - Cement or any other substitute material or composition; Pipe Handler; Pneumatic & Electric Tools, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (not including "patent" scaffolding); Torchman - Gas, Electric, Thermal or similar device; & Hydroblast

GROUP 3: Caisson Work; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; Underpinning; & Hod Carrier

GROUP 4: Driller for Blasting Purposes; Dynamite Blasters or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.; Asbestos Abatement Worker; & Hazardous Waste Worker

GROUP 5: Flagperson

LABO1091-004 05/01/2002

ST. LOUIS COUNTY (South of TR 55)

	Rates	Fringes

Laborer (Asbestos Abatement)...$ 20.80 7.41

LABO1091-005 05/01/2002

ST. LOUIS COUNTY (South of T. 55 N)

	Rates	Fringes
Laborers: (Heavy, Sewer & Water Lines)		
GROUP 1	$ 22.17	5.96
GROUP 2	$ 22.37	5.96
GROUP 3	$ 22.52	5.96
GROUP 4	$ 22.62	5.96
GROUP 5	$ 22.87	5.96
GROUP 6	$ 24.17	5.96

LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batcherperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batcher person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batcher person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) $1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) $3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work;

Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; & Nozzle Operator (Gunite, Sandblasting, Cement)

GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer; unnel Miner; Tunnel Miner Tender; Underground Laborer; & Underpinning

GROUP 6: Tunnel Miner Under Pressure

LABO1097-002 05/01/2001

POLK COUNTY (Excluding the city limits of East Grand Forks):

	Rates	Fringes
Laborers: (Treatment Plants)		
Projects $760,000 & over, including Mechanical & Electrical:		
GROUP 1	$ 15.68	5.06
GROUP 2	$ 16.08	5.06
GROUP 3	$ 16.28	5.06
GROUP 4	$ 13.98	5.06
Projects under $760,000 including Mechanical & Electrical:		
GROUP 1	$ 13.48	5.06
GROUP 2	$ 13.67	5.06
GROUP 3	$ 13.84	5.06
GROUP 4	$ 11.88	5.06

LABORER CLASSIFICATIONS

GROUP 1: Construction; Carpenter Tender; Concrete; Damp Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete & Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Material Handler - Power Buggy; Rebar; Signal Person; Snow Blower; Chain Saw; Concrete Vibrator; Demolition & Wrecking, Excluding Remodeling; Mason Tender; Mortar Mixer - Cement or Any Other Substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including "Patent" Scaffolding); & Torch Person - Gas, Electric, Thermal or similar device; Scrapping, Sweeping & Clean-up; Skid Steer, Forklift (Incidental Use)

GROUP 2: Creosote Handler; Caisson Work; Concrete Saw Drill; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; Underpinning; & High Pay/Low Pay - 40 ft. over or Under Ground Floor without Conventional Floor Areas; Pipe- Rehab

Technician, including Cleaning, Cutting, Camering, etc.; Wall Mounted Saw Operator

GROUP 3: Driller for Blasting Purposes; Dynamite Blaster or substitute products; & Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 4: Flagperson

LABO1097-004 05/01/2001

ST. LOUIS COUNTY (North of T 55 N)

	Rates	Fringes
Laborers: (Treatment Plants)		
GROUP 1	$ 19.67	5.81
GROUP 2	$ 20.07	5.81
GROUP 3	$ 20.37	5.81
GROUP 4	$ 17.77	5.81
GROUP 5	$ 21.67	5.81

LABORERS CLASSIFICATIONS

GROUP 1 - Construction; Carpenter Tender; Concrete; Damp Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete & Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Material Handler - Power Buggy; Rebar; Signal Person; & Snow Blower Operator; Chain Saw Operator; Concrete Vibrator; Demolition & Wrecking, Excluding Remodeling; Mason Tender; Mortar Mixer - Cement or Any Other Substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including "Patent" Scaffolding); & Torch Person - Gas, Electric, Thermal or similar device; Scrapping, Sweeping & Clean-up; Skid Steer, Forklift (Incidental Use)

GROUP 2 - Creosote Handler; Caisson Work; Concrete Saw Drillr; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; Underpinning; & High Pay/Low Pay - 40 ft. Over or Under Ground Floor without Conventional Floor Areas; Pipe-Rehab Technician, including Cleaning, Cutting, Camering, etc.; Wall Mounted Saw Operator

GROUP 3 - Driller for Blasting Purposes; Dynamite Blaster or substitute products; & Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

GROUP 4: Flagperson

GROUP 5: Refractory worker

LABO1097-007 05/01/2002

POLK COUNTY (Excluding the city limits of East Grand Forks); &
ST. LOUIS COUNTY (N. of TR 55, but excluding a 20-mile radius
of Grand Forks, North Dakota)

	Rates	Fringes
Laborer (Asbestos Abatement)...	$ 20.80	7.41

PAIN0061-006 05/01/2002

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
GROUP 1.....	$ 26.25	9.38
GROUP 2.....	$ 26.25	9.28
GROUP 3.....	$ 19.69	9.28
GROUP 4.....	$ 27.00	9.38

PAINTER CLASSIFICATIONS

GROUP 1: Brush; Paperhanger

GROUP 2: Drywall Finisher

GROUP 3:- Drywall Sander

GROUP 4: Sandblaster; Spray; Swing Stage; Boatswain Chair; Window Jack; Safety Belt; Erected Structural Steel; Bridges; & Application of Epoxy Materials & Materials containing over 50% Creosote

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PAIN0106-009 05/01/2001

ST LOUIS COUNTY

	Rates	Fringes
Glazier.....	$ 20.11	7.24+a

FOOTNOTE:

a. 1 to 4 years' service - 1 week's paid vacation; 5 to 11 years' service - 2 weeks' paid vacation; 11 years' service or more - 3 weeks' paid vacation

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PAIN0106-010 05/01/2001

ST. LOUIS COUNTY

	Rates	Fringes
Painters:		
New:		
Brush, Roller.....	$ 22.73	7.73

Paperhanger, Spray,
Steel, Taper.....$ 23.33 7.73
REPAINT:
Brush, Roller.....$ 21.23 7.73
Paperhanger, Spray,
Steel, Taper.....$ 21.83 7.73

PAIN0386-009 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & East of a line drawn between the town of Santiago in Sherburne County and the town of Clearwater in Wright County) & WRIGHT COUNTIES

	Rates	Fringes
Painters:		
Brush; Roller; & Paperhanger	$ 25.50	10.13
Spray; Steel; Sandblaster; Swing Stage & Epoxy	$ 26.25	10.13

PAIN0386-010 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & east of a line drawn between the town of Santiago, Sherburne County and the town of Clearwater, Wright County) & WRIGHT COUNTIES

	Rates	Fringes
Drywall		
Finisher	$ 24.93	10.60
Sander	$ 18.70	10.60

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* PAIN0681-005 05/01/2004

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Painter (Under $600,000 in volume including Electrical & Mechanical; excluding corporate city limits of Rochester)		
Brush & Roller	$ 21.07	7.16
Painter		
Paperhanger & Steel	$ 21.28	7.16
Sandblasting & Spray	$ 21.45	7.16
Stageman & Beltman	$ 21.92	7.16
Painters: ($600,000 & over		

in volume including
Electrical & Mechanical;
and all work within
corporate city limits of
Rochester)

Brush & Roller	$ 23.73	6.89
Paperhanger & Steel	$ 23.98	6.89
Sandblasting & Spray	$ 24.23	6.89
Stageman & Beltman	$ 24.73	6.89

Painters: ($600,000 & over
in volume including
Electrical & Mechanical;
and all work within
corporate city limits or
rochester)

Brush & Roller	$ 24.79	7.16

Painters:

Paperhanger & Steel	$ 25.04	7.16
Sandblasting & Spray	$ 25.29	7.16
Stageman & Beltman	$ 25.79	7.16

APPLICATION OF EPOXY, CREOSOTE OR ALL OTHER HIGHLY TOXIC MATERIALS - $ .25 PREMIUM

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* PAIN0681-008 05/01/2004

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Drywall		
Finisher	$ 23.68	8.68
Sander	$ 17.76	8.68

PAIN0880-001 05/01/2002

	Rates	Fringes
Sign Painter	$ 21.12	2.07+a+b

FOOTNOTES:

a. 8 Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; the Day After Thanksgiving; the last working Day Before Christmas; & Christmas Day

b. Vacation Pay: 3 years service - 2 weeks paid vacation; 6 years service - 3 weeks paid vacation; 15 years service - 4 weeks paid vacation

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PAIN0884-006 06/01/2003

	Rates	Fringes

Painter
AREA 1:
GROUP 2.....$ 16.81 7.61
GROUP 3.....$ 17.41 7.61
AREA 2:
GROUP 1.....$ 14.41 1.87
GROUP 2.....$ 16.00 6.89
GROUP 3.....$ 15.16 1.87

Painter (Projects under
$8,000)
AREA 1:
GROUP 1.....$ 16.81 7.61

Painter (Projects Under
$8,000).....

Painters: (Projects $8,000
and over)
AREA 1:
GROUP 1.....$ 21.01 7.61

Painters:
AREA 1:
GROUP 2.....$ 21.01 7.61
GROUP 3.....$ 21.76 7.61
AREA 2:
GROUP 1.....$ 18.01 1.87
GROUP 2.....$ 20.01 6.89
GROUP 3.....$ 18.76 1.87

AREA 1: BENTON, SHERBURNE (Western one-half, North & West of a line drawn between the city of Santiago in Sherburne County & the city of Clearwater in Wright County) & STEARNS COUNTIES

AREA 2: CLAY & POLK COUNTIES

PAINTER CLASSIFICATIONS

GROUP 1: Brush & Roller

GROUP 2: Drywall Taper & Finisher

GROUP 3: Spray; Two Component Paints; Epoxies; Sandblasting & Rigging; Bridge Painting; Work done on Swing Scaffolding, Safety Harness, Boatswain's Chair, Coverings & Erection of Scaffolding for same, Work on Erected Structural Steel, Storage Bins, Tanks, Abrasive Blasting; Steeple Jack Work which applies to Smokestacks, Elevated Tanks & Erected Towers over 35 ft., Flag Poles; & Structural Supports

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PAIN1324-005 06/01/2002

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, POLK, RAMSEY, SCOTT, SHERBURNE,

STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Glazier	$ 27.36	10.14

PLAS0265-004 06/01/2000

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Plasterer	$ 24.88	8.35

PLAS0633-033 05/01/2002

ST. LOUIS COUNTY (South of T 55N)

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 22.79	9.30

PLAS0633-034 05/01/2002

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 26.51	3.80

PLAS0633-035 05/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 27.34	9.31

PLAS0633-036 05/01/2002

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 21.59	8.21

PLAS0633-037 05/01/2002

ST. LOUIS COUNTY

	Rates	Fringes
Plasterer	$ 23.27	9.30

PLAS0633-038 06/01/2002

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Plasterer	$ 26.85	3.35

PLAS0633-039 05/01/2002

ST. LOUIS COUNTY (South of T 55N)

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 24.93	9.30

PLAS0633-040 05/01/2000

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 26.14	9.31

PLAS0633-041 05/01/2002

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
Cement Mason (Heavy, Sewer & Water Lines)	$ 21.59	8.21

PLAS0633-042 05/01/2002

HOUSTON & OLMSTED COUNTIES

	Rates	Fringes
Cement Mason (Heavy, Sewer		

& Water Lines).....$ 26.51 3.80

PLAS0633-044 05/01/2002

POLK COUNTY

	Rates	Fringes
Cement Mason (Treatment Plants)	$ 20.79	6.96

PLAS0633-045 05/01/2002

BENTON, CLAY & POLK COUNTIES

	Rates	Fringes
Plasterer	$ 19.59	5.91

PLUM0006-005 08/01/2003

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 30.86	10.30

PLUM0011-007 05/01/2003

ST. LOUIS COUNTY (South of an east-west line drawn through Cotton)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 28.45	10.55

PLUM0015-005 05/01/2003

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a line running northeasterly from the point of Wright County that lies furthest north to that point of Mille Lacs County that is south by west) & WRIGHT COUNTIES

	Rates	Fringes
Plumber	$ 31.27	11.86+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0015-006 05/01/2003

BENTON & STEARNS COUNTIES

	Rates	Fringes
Plumber	$ 27.77	12.04+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0034-005 05/01/2003

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes
Plumber	$ 30.93	21.21+a

FOOTNOTE:
a. Paid Holiday: Labor Day

PLUM0126-005 05/15/2002

CLAY & POLK COUNTIES

	Rates	Fringes
Plumber and Steamfitter		
Mechanical Projects		
$2,000,000 and above	$ 28.29	8.31
Mechanical Projects		
under $2,000,000	$ 25.89	8.31

PLUM0417-002 01/01/2003

ANOKA, DAKOTA, HENNEPIN, RAMSEY, SCOTT & WASHINGTON COUNTIES

	Rates	Fringes
Sprinkler Fitter	$ 30.97	11.81+a

FOOTNOTE:
a. 6 Paid Holidays: Memorial Day; July 4th; Friday before Labor Day; Labor Day; Columbus Day; & Thanksgiving Day

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PLUM0455-006 05/01/2002

CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

	Rates	Fringes
Plumber and Steamfitter	$ 31.22	10.64

PLUM0539-006 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a line running North-Easterly from the point of Wright Co.that lies furthest North to that point of Mille Lacs that is South by West) & WRIGHT COUNTIES

	Rates	Fringes
Pipefitter	$ 31.30	10.70

PLUM0539-010 05/01/2002

BENTON, SHERBURNE (West of a line running North-Easterly from point of Wright Co. lies furthest North to point of Mille Lacs that is South by West) & STEARNS COUNTIES

	Rates	Fringes
Pipefitter	$ 24.71	13.03

PLUM0589-005 06/01/2002

ST. LOUIS COUNTY (North of an East-West line drawn through Cotton)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 24.56	12.13

ROOF0096-016 06/01/2002

	Rates	Fringes
Roofers:		
Houston County	$ 18.93	5.30
Olmsted County	$ 19.86	5.30

ROOF0096-017 07/01/2003

ST. LOUIS COUNTY (South of Hwy 16, excluding city of Forbes)

	Rates	Fringes
Roofer	$ 24.70	9.15

ROOF0096-018 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI (South of State Highway #95, including Cambridge), RAMSEY, SCOTT, WASHINGTON & WRIGHT (South of County Road #39) COUNTIES

	Rates	Fringes
Roofer	$ 28.19	9.75+a

FOOTNOTE:
a. 1 Paid Holiday: Labor Day

ROOF0096-019 09/30/2002

BENTON, ISANTI (North of State Highway #95, excluding Cambridge), SHERBURNE, STEARNS & WRIGHT (North of Wright County Road #39, from South Haven to Monticello, including both towns) COUNTIES

	Rates	Fringes
Roofer	$ 23.70	6.70

ROOF0096-020 09/30/2002

ST. LOUIS COUNTY (Northern two-thirds)

	Rates	Fringes
Roofer	$ 20.40	5.70

ROOF0214-002 04/01/1998

CALY & POLK

	Rates	Fringes
Roofer	$ 10.83	

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* SFMN0669-004 04/01/2004

BENTON, CARVER, CHISAGO, CLAY, HOUSTON, ISANTI, OLMSTED, POLK, SHERBURNE, ST. LOUIS, STEARNS & WRIGHT COUNTIES

	Rates	Fringes
Sprinkler Fitter	$ 30.31	8.15

SHEE0010-021 05/01/2003

BENTON, SHERBURNE & STEARNS COUNTIES

	Rates	Fringes
Sheet Metal Worker	$ 27.32	11.28

SHEE0010-022 06/01/2003

HE25

POLK COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 19.51	8.32

SHEE0010-023 05/01/2003

ST. LOUIS COUNTY (Southern one-third)

	Rates	Fringes
Sheet Metal Worker.....	$ 26.45	12.60

SHEE0010-024 05/01/2003

ST. LOUIS COUNTY (Northern two-thirds)

	Rates	Fringes
Sheet Metal Worker.....	$ 25.41	12.01

SHEE0010-025 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,
SCOTT, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Sheet Metal Worker.....	$ 31.15	12.42+a

FOOTNOTE:
a. Paid Holiday: Labor Day

SHEE0010-026 05/01/2003

OLMSTED COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 26.58	10.60

SHEE0010-027 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 22.27	8.28

SHEE0010-029 06/08/2003

CLAY COUNTY

	Rates	Fringes
Sheet Metal Worker	$ 19.49	8.65

TEAM0132-006 05/01/2000

CHISAGO (Northern half) AND ISANTI COUNTIES

	Rates	Fringes
Truck Driver (Treatment Plants)	$ 23.08	

TEAM0160-009 05/01/2002

ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Truck drivers: (Heavy, Sewer & Water Lines)		
AREA 1:		
GROUP 1	$ 21.60	6.50
GROUP 2	$ 21.05	6.50
GROUP 3	$ 20.95	6.50
GROUP 4	$ 20.70	6.50
AREA 2:		
GROUP 1	$ 21.40	6.50
GROUP 2	$ 20.85	6.50
GROUP 3	$ 20.75	6.50
GROUP 4	$ 20.50	6.50
AREA 3:		
GROUP 1	$ 19.60	6.50
GROUP 2	$ 19.05	6.50
GROUP 3	$ 18.95	6.50
GROUP 4	$ 18.75	6.50
AREA 4:		
GROUP 1	$ 17.52	6.50
GROUP 2	$ 17.01	6.50
GROUP 3	$ 16.86	6.50
GROUP 4	$ 16.86	6.50

AREA DESCRIPTIONS

AREA 1 (District 1): ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

AREA 2 (DISTRICT 2): ST. LOUIS COUNTY

AREA 3 (District 3): HOUSTON & OLMSTED COUNTIES

AREA 4 (District 4: BENTON, CHISAGO (North of T. 34-N), CLAY, ISANTI, POLK & STEARNS COUNTIES

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Boom; Mechanic; Off-Road, including Articulated Dump Truck; Tractor Trailer; Winch Truck

GROUP 2 - Tri Axles (Including Four Axles)

GROUP 3 - Bituminous Distributor; Bituminous Distributor (One man operation); Tandem Axles; & Single Axles

GROUP 4 - Bituminous Distributor Spray Operator (Rear and Oiler); Dumpman; Pilot Car; Self-propelled Packer; Slurry Operator; Tank Truck Tender (Gas, Oil, Road Oil & Water); Tractor Operator (Wheel type used for any purpose)

THE FOLLOWING CLASSIFICATIONS SHALL COME UNDER THE APPROPRIATE AXLE RATE WAGE GROUP:
"A" Frame; Dry Batch Hauler; Ready-Mix Concrete; Slurry; Tank (Gas, Oil, Road Oil & Water)

TEAM0221-004 06/01/2002

	Rates	Fringes
Truck drivers: (Landscape)		
Single Axles & Farm Tractors	$ 14.20	6.20
Truck drivers:		
Tandem Axles	$ 14.35	6.20
Truck-Train Combination	$ 14.50	6.20

TEAM0346-004 05/01/2003

ANOKA, CARVER, CHISAGO (Southern half), DAKOTA, HENNEPIN, RAMSEY, ST. LOUIS, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Truck drivers: (Treatment Plants)		
GROUP 1	$ 22.65	6.75
GROUP 2	$ 22.10	6.75
GROUP 3	$ 22.00	6.75
GROUP 4	$ 21.75	6.75

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Boom Truck

GROUP 2: Ready Mix, Tractor Trailor

GROUP 3: Fork Lift, Mechanic, Tandem or 3 axle Truck

GROUP 4: Dumpman, Farm Tractor, Single or 2 axle Truck

TEAM0405-003 05/01/1999

	Rates	Fringes
Truck drivers: (Treatment Plants)		
Houston County	$ 15.49	
Truck drivers:		
Olmsted County	$ 16.94	

TEAM0563-003 05/01/1999

BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES

	Rates	Fringes
Truck drivers: (Treatment Plants)		
Projects $950,000 & over	$ 15.59	15.59
Truck drivers:		
Projects under $950,000	$ 13.84	

TEAM0580-003 04/19/1999

	Rates	Fringes
Truck Driver (Treatment Plants)	$ 14.05	

TEAM1097-002 05/01/2001

POLK COUNTY (Excluding the city limits of East Grand Forks)

	Rates	Fringes
Truck drivers: (Treatment Plants)		
S750,000 & over including Electrical & Mechanical	$ 15.68	
Under $760,000, including Electrical & Mechanical	$ 13.48	

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

==========

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

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

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

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

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

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

==========

END OF GENERAL DECISION

General Decision Number ND030014 06/13/2003 ND14

Superseded General Decision No. ND020014

State: North Dakota

Construction Type:
HEAVY

County(ies):
BURLEIGH GRAND FORKS
CASS MORTON

HEAVY CONSTRUCTION PROJECTS (Excluding Sewer & Water Line Construction & Drainage Projects)

Modification Number	Publication Date
0	06/13/2003

COUNTY(ies):
BURLEIGH GRAND FORKS
CASS MORTON

ELEC0714I 01/01/2001

	Rates	Fringes
BURLEIGH AND MORTON COUNTIES:		
ELECTRICIANS:		
ELECTRICIAN	23.45	10.5%+a
CABLE SPLICER	23.85	10.5%+a

FOOTNOTE;
a. $5.20 per hour.

ELEC1426O 06/01/2002

	Rates	Fringes
CASS AND GRAND FORKS COUNTIES:		
WIREMAN	21.47	5.20+12%
CABLE SPLICER	22.54	5.20+12%

SUND2006A 05/04/2000

	Rates	Fringes
LABORERS:		
Common	9.92	
Pipelayers	12.00	
PAINTER:		
Brush,Roller,& Spray	17.00	
POWER EQUIPMENT OPERATORS:		
Backhoe	15.74	4.84
Bobcat	12.60	4.50

Bulldozer	14.41	4.50
Crane	13.29	3.42
Front End Loader	14.93	
Motor Grader	18.10	
Scraper	16.13	
Tractor	12.13	
TRUCK DRIVER:		
Dump	8.50	
Tamdem/Semi	15.77	

WELDERS - Receive rate prescribed for craft performing operation

to which welding is incidental.

==========

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

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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

* an existing published wage determination
* a survey underlying a wage determination
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With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

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Wage and Hour Administrator
U.S. Department of Labor

200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

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

END OF GENERAL DECISION

MATERIAL SOURCES

November 7, 2003

Materials source list for Grand Forks/East Grand Forks

Fine Concrete Aggregate	Forester Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 29 & N ½ Sec. 32 T 160 N, R 46 W Kittson County, MN
	Trail Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 25 T 150 N, R 40 W Polk County, MN
	Anderson Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 6 & Sec. 31 T 138 N, R 41 W Becker County, MN
	Loeffler Pit Loeffler Concrete & Gravel (218) 265-2676	E ½, Sec. 17 T 160 N, R 46 W Kittson County, MN
Coarse Concrete Aggregate	J & S Gravel Pit Northern Paving Co. (218) 281-5101	SE ¼, Sec. 30 T 150 N, R 44 W Red Lake County, MN
	Forester Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 29 & N ½ Sec. 32 T 160 N, R 46 W Kittson County, MN
	Trail Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 25 T 150 N, R 40 W Polk County, MN
	Anderson Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 6 & Sec. 31 T 138 N, R 41 W Becker County, MN
	Loeffler Pit Loeffler Concrete & Gravel (218) 265-2676	E ½, Sec. 17 T 160 N, R 46 W Kittson County, MN

Riprap Stone Sources	Trail Pit Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	Sec. 25 T 150 N, R 40 W Polk County, MN
	Dave Dunham Pit Felton, MN (218) 494-3360	Sections 28 & 29 T 142 N, R 45 W Clay County, MN
	Aggregate Industries (Kost Division) Box 1036 Moorhead, MN (218) 236-9640	W ½ Sec. 32 T 142 N, R 45 W Clay County, MN
	Southerland Quarry Bradshaw Gravel Supply (Strata Corp.) (701) 746-7491	NW ¼, SW ¼, Sec. 6 T 162 N, R 34 W Lake of the Woods County, MN
	Meridian Aggregate Co. Box 69 St. Cloud, MN (320) 251-7141	SE ¼, Sec. 18 T 124 N, R 28 W Stearns County, MN
	Meridian Aggregate Co. 200 14th Street Granite Falls, MN (320) 564-2125	Sections 28, 29, 32, 33 T 116 N, R 39 W Yellow Medicine County, MN
	Ortonville Stone Co. Box 67 Ortonville, MN (320) 839-6131	SW ¼, Sec. 26 T 121 N, R 46 W Big Stone County, MN

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SECTION 01000

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SECTION 01000

GENERAL

PART 1 GENERAL

1.1 ORGANIZATION OF SPECIFICATIONS

The specifications which govern the materials and equipment to be furnished and the work to be performed under this contract are listed in the Table of Contents. No attempt has been made in the specifications to segregate work to be performed by any trade, craft, or subcontractor. Any segregation between the trades or crafts shall be solely a matter for agreement between the Contractor, Contractor's employees, and subcontractors.

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-02 Shop Drawings

Construction Access Routes; G, COR

The Contractor shall submit plans and schedules for all construction access routes for approval.

1.3 MEASUREMENT AND PAYMENT

The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract line items on the bidding schedule.

PART 2 PRODUCTS

2.1 RECYCLED/RECOVERED MATERIALS

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

PART 3 EXECUTION

3.1 DISPOSAL OF DEBRIS AND WASTE

The Contractor's attention is directed to Section 01355 ENVIRONMENTAL PROTECTION and to the following CONTRACT CLAUSES: 52.236-7 PERMITS AND RESPONSIBILITIES; 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS; 52.236-10 OPERATIONS AND STORAGE AREAS; and 52.236-12 CLEANING UP. Burning will not be permitted at the project site and debris or waste shall not be left on the site. Disposal of clearing and grubbing debris shall be by one of the following methods:

3.1.1 Disposal offsite for useful purposes

In the interest of conservation, it is required that the Contractor make a reasonable effort to dispose of the material offsite for some useful purpose. Timber may be cut into convenient lengths and utilized for making saw logs, posts, cordwood, wood chips for paper making or other uses, or other similar use.

3.1.2 Disposal in a locally operated sanitary landfill

Contractor shall select the disposal site with the approval of the Contracting Officer. The Contractor shall secure the required permits for disposal and provide copies of the permit to the Contracting Officer.

3.1.3 Disposal of Solid Construction Debris and Waste

Disposal of Solid Construction Debris and Waste shall consist of removal from Government property and disposal in compliance with Federal, state, and local requirements for solid waste disposal. Contractor shall select the disposal site with the approval of the Contracting Officer.

3.2 SCHEDULING

3.2.1 General

It shall be the responsibility of the Contractor to schedule and execute the work, incorporating the necessary requirements set forth in these specifications. The Contractor shall develop and submit a schedule in accordance with CONTRACT CLAUSE: 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS.

The City of East Grand Forks has a weekly coordination meeting on Tuesdays at 8:00 a.m. at the East Grand Forks City Hall Training Room. Contractor may be required to attend this meeting if appropriate to the status of this project.

3.2.2 Notification

The Contractor shall inform the Government in writing within 5 days after receipt of notice to proceed and before work begins as to which hours of the day and days of the week work under this contract will be performed. The Contractor shall notify the Government at least 24 hours before work is to be conducted on overtime, in multiple shifts, on weekends, or on Federal Government holidays.

3.3 OTHER CONTRACTS

The Contractor shall coordinate with other contractors in the performance of the work and schedule such work to provide for a minimum of delays and interferences. Coordination shall be through the Contracting Officer. Work listed below is currently required under separate contract or is scheduled to be awarded as a separate contract prior to completion of work under this contract. These contracts will be considered in the application of CONTRACT CLAUSE: 52.236-8 OTHER CONTRACTS.

3.3.1 List of Other Contracts and Estimated Completion Dates:

Grand Fork Levees Phase 2: September 2004
East Grand Fork Levees Phase 2: September 2004
Grand Forks Levees Phase 3: April 2006
East Grand Forks Levees Phase 3: February 2006
Grand Forks Levees Phase 4: December 2006
East Grand Forks Levees Phase 4: December 2006
East Grand Forks Levees Heartsville Coulee: September 2006

3.4 CONSTRUCTION ACCESS AND COORDINATION WITH OTHER CONTRACTORS

Proposed construction access routes are shown on the reference drawings. The Contractor is responsible for all costs, coordination, development, maintenance, and restoration of all construction access routes utilized, except as noted below. The Contractor shall submit shop drawings of all construction access routes for approval. The Contractor shall coordinate construction access with the Cities of Grand Forks, North Dakota, and East Grand Forks, Minnesota, through the Contracting Officer. Construction access routes for this project will cross other contractors' work areas. The Contractor shall coordinate construction access and schedule sequencing with the following:

North Bridge - Grand Forks, North Dakota side of River: Shared work limits exist with the Grand Forks Phase 3 Levees Contractor. Coordination with the Phase 3 Contractor is required to minimize interferences. Pedestrian Bridge Contractor shall coordinate the sequencing of the pump station outfall being constructed by the Grand Forks Phase 3 Contractor with construction of the approach trail to the bridge. The trail shall not be constructed until the Phase 3 Contractor has completed the pump station discharge line and outfall and all other work in the vicinity.

Proposed Pedestrian Bridge access is off State Hill Road through the abandoned wastewater treatment plant. Access is controlled by a locked gate. Pedestrian Bridge Contractor is responsible for development, maintenance, and restoration of access road.

North Bridge - East Grand Forks, Minnesota side of River: Pedestrian Bridge Contractor shall coordinate construction access with East Grand Forks Phase 4 Levees Contractor. Proposed Construction access crosses the East Grand Forks Phase 4 work limits. The East Grand Forks Phase 4 Contractor will provide construction access through their work limits until August 2006 as shown on the reference drawings. East Grand Forks Phase 4 co ntract award anticipated in January 2005.

South Bridge - Grand Forks, North Dakota side of River: Contractor shall coordinate and share work limits with the Grand Forks Phase 2 and Phase 3 Contractors. Proposed Contractor Access is shown on the reference drawings. Access will be through the Elks Drive closure after completion. Anticipated completion date is late Fall 2004. Contractor shall coordinate

and construct a bypass south of the Elks Drive closure work area if access is required prior to closure completion. The bypass shall be immediately restored and area made available to the Phase 3 Contractor upon completion of the closure. Pedestrian Bridge Contractor is responsible for development, maintenance, and restoration of access road.

South Bridge - East Grand Forks, Minnesota side of River: Multiple Contractors shall share access road and work limits. Access road is limited to 1-way traffic. Contractor shall allow and coordinate construction access across Pedestrian Bridge work limits with the Heartsville Coulee and East Grand Forks Phase 3 Contractors to access the Peabody borrow site. The Phase 3 Contractor will leave a 200-foot wide access point in the Phase 3 levee as shown on the reference drawings. The Phase 3 Contractor will also stockpile material for completion of the levee closure. The Pedestrian Bridge Contractor is responsible for completing the levee closure and road raise as shown. The Contractor is responsible for development, maintenance, and restoration of all access road(s) utilized. The Contractor shall restore to existing conditions the access road from Rhinehart Drive to the road raise over the levee, if the road is utilized as an access road. Pedestrian Bridge Contractor shall restore access or haul road from the Bridge site to the phase 3 levee. Restoration of haul roads beyond the Pedestrian Bridge work limits to the Peabody Borrow site shall be accomplished by the Phase 3 or Heartsville Contractor.

3.5 DIVING

All diving shall be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1, Section 30. Prior to submitting bids on this contract, Contractor's and their diving Subcontractor (if applicable), shall obtain copies of this manual, and plan their procedures and staffing requirement accordingly. The Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1 is available to prospective bidders for review at the U.S. Army Engineer District, St. Paul, MN.

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SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

The contactor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

1.2 GROUNDS AND ROADWAYS

1.2.1 Snow Removal

The Contractor shall be responsible for snow removal in the Contractor's access, work, and parking areas.

1.3 BLASTING

Blasting will not be permitted.

PART 2 PRODUCTS

PART 3 EXECUTION

3.1 EXISTING UTILITIES

3.1.1 General

The Contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and reestablish service. The Contractor shall be responsible for all costs related to protecting existing utilities. The Contractor shall coordinate with the utility representatives listed below:

Minnkota Power Cooperative, Inc.
1822 Mill Road
P.O. Box 13200
Grand Forks, ND 58208-3200
(701) 795-4000
Fax (701) 795-4214

3.1.2 Buried Utilities

The approximate locations of known existing buried utilities are shown on the drawings to the extent of available information at the time the drawings were prepared. (In general, no service connections are shown.) Prior to commencing excavation, the Contractor shall accurately locate all such installations. In the event the Contractor damages any existing utility lines, report thereof shall be made immediately to the Contracting Officer. Repair of damaged utilities shall be in accordance with CLAUSE 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT,

UTILITIES, AND IMPROVEMENTS.

3.1.3 Interruption of Services

Utility services shall not be interrupted except for brief periods to facilitate cut-ins. The Contractor shall provide temporary service and shall relocate existing utilities as required to construct the work shown and insure uninterrupted service. If interruption of services is unavoidable, the Contractor shall request approval in writing at least 30 calendar days prior to the proposed interruption. This submittal shall fully describe all details of proposed interruption and the reasons why alternatives are not feasible. The Contractor shall further coordinate with the owner of the utility and notify affected consumers at least 10 calendar days in advance of interruption of services. The Contracting Officer will not in general approve proposals which require interruption of services for more than 4 continuous hours.

3.1.4 Minnesota One Call Excavation Notice System

For contract work performed within the State of Minnesota, the Contractor shall meet the requirements of Minnesota Statutes, Chapter 216D "One Call Excavation Notice System." The Gopher State One Call notification center telephone numbers are:

Metro area	(651) 454-0002
Outstate	(800) 252-1166

3.1.5 North Dakota One Call Excavation Notice System

For contract work performed within the State of North Dakota, the Contractor shall meet the requirements of North Dakota Statutes, Chapter 42-23 "One Call Excavation Notice System." The North Dakota One Call notification center telephone numbers are:

Hotline	800-795-0555
Main Office	701-223-9380

3.2 PROTECTION OF TREES

Trees to be protected shall be determined and staked by the Contracting Officer. The following measures shall be implemented for tree protection and shall be addressed in the Environmental Protection Plan required under Section 01355 ENVIRONMENTAL PROTECTION:

a. The trees shall be protected from wounds to the bark and foliage.
b. The critical root zone shall be protected from compaction and grading.
c. Changes in temporary site drainage and ponding shall be minimized to the extent possible that it effects the protected trees.

The critical root zone of trees designated to be protected shall be surrounded by a high visibility fence 4 feet in height, supplied and erected by the Contractor. The critical root zone shall be defined by an area extending 1.5 feet radius from each tree for each inch of Diameter at Breast Height (DBH). The fence shall be securely erected and installed prior to any movement through the project site by construction vehicles or equipment, and remain in place until construction and clean-up are completed. The critical root zone shall remain free of all construction activities including trenching, staging, stockpiling and storage of

materials. Vehicles and equipment shall not drive or park within the critical root zone. Variation to the critical root zone size or configuration will only be permitted where it is absolutely necessary for construction of the project, and requires approval of the Contracting Officer. Short duration alterations of the critical root zone involving wood chips and limited equipment travel shall be submitted in writing for approval.

The Contractor shall not operate equipment in vegetated areas outside the work limits.

3.2.1 Restoration of Damaged Trees

Any existing tree designated to be protected that is damaged by the Contractor's operations shall be replaced. Trees will be considered damaged if the critical root zone in cohesive soils is compacted, if there are significant wounds that could contribute to rot, or if distress (evident by reduced growth or other observations of distress documented by a forester) is observed prior to closing the contract. Trees shall be replaced in kind on a caliper inch per caliper inch basis (DBH) (e.g. one 6-inch red oak shall be replaced with two 3-inch red oaks, three 2-inch red oaks, or six 1-inch red oaks). Replacement trees shall be planted in accordance with Section 02930 EXTERIOR PLANTING and guaranteed with the Contractor's standard warranty. Replacement tree size and location will be determined and staked by the Contracting Officer. Repair by pruning, aeration, soil conditioning, or other recommendation from a qualified forester will be considered as substitution for replacement by the Contracting Officer.

3.3 FLOATING PLANT

3.3.1 Equipment and Personnel

Floating plant and personnel shall comply with the applicable U.S. Coast Guard regulations and licensing requirements. Floating plant equipment shall meet the applicable requirements of 46 CFR Chapter 1 Subchapter E and 46 CFR 44.05-10.

3.3.2 Sewage and Bilge Water Disposal

The Contractor's methods for disposal of sanitary sewage, and bilge water accumulated aboard floating plant, shall meet applicable local, state, and federal requirements.

3.4 SITE ACCESS, SHARED WORK LIMITS, AND CONSTRUCTION RESTRICTIONS

3.4.1 General

This contract requires significant coordination with other Contractors. Multiple contractors will share work limits, require access through existing or future work limits, and/or share construction access routes. The Contractor shall include adequate allowances for increased coordination and sequencing construction activities with other Contractors. The following sequencing and access issues exist:

North Bridge, East Grand Forks side of River: Construction access across East Grand Forks Golf Course property is not permitted until 15 July, 2005.

North Bridge, Grand Forks Side of River: Shared work limits exist with Grand Forks Phase 3 Contractor. Contractor shall not construct recreational approach trail until June 2006 or after Phase 3 Contractor has completed pump station discharge line, outfall and related work in the vicinity.

South Bridge, East Grand Forks side of River: Both the Heartsville Coulee and East Grand Forks Phase 3 Levee Contractors require access across Pedestrian Bridge work limits to access the Peabody Borrow site. The Contractor shall allow and coordinate construction access with the Heartsville and Phase 3 Contractors according to Section 01000 GENERAL, Paragraphs, "OTHER CONTRACTS" and "CONSTRUCTION ACCESS AND COORDINATION WITH OTHER CONTRACTORS". In addition, Contractor shall construct the trail connection from Station 112+00 to Station 125+10.32 after 1 July, 2006 or after the Heartsville Coulee and Phase 3 Contractors have completed construction and restoration activities in the Peabody Borrow Site, whichever occurs first. Completion of the approach trail prior to this time is at the Contractors risk and any trail damage, regardless of cause, shall be repaired by the Contractor at no cost to the Government.

South Bridge, East Grand Forks side of River: Other Contractors will be using the proposed access road. Access road is limited to 1-way traffic.

Additional coordination and sequencing requirements are listed in Section 01000, Paragraphs "OTHER CONTRACTS" and "COORDINATION WITH OTHER CONTRACTORS".

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SECTION 01270

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PART 2 PRODUCTS (Not Applicable)

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SECTION 01270

MEASUREMENT AND PAYMENT

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.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST HB 44	(1997) NIST Handbook 44: Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices

1.2 COMPENSATION

The payment provided for in the contract shall constitute full compensation for furnishing all materials and for performing all work under the contract in a complete and acceptable manner. The contract work shall include providing plant, equipment, tools, supplies, labor, supervision, incidental materials, quality control, environmental protection, and meeting safety requirements, and for performing all work required for which separate payment is not otherwise provided. Compensation for all work shown, specified, or essential to completion of the project (whether or not the specific material or operation is indicated) shall be included on the bidding schedule. The payment provided for in the contract includes compensation for all risk, loss, damage, and expense arising out of the nature of the work or its prosecution, subject to conditions of the contract. Payment for each contract line item will constitute full compensation for furnishing the materials and constructing the work complete in place as specified.

1.3 APPROVAL OF MATERIALS OR ALTERNATES

Requests for approval of materials and products, or substitutes thereof, will not be considered prior to award of the contract.

1.4 QUANTITY SURVEYS

The Contractor shall provide quantity surveys for bulk materials measured by volume or weight, unless an alternate method of measurement is specified. Quantity surveys are specified in Section 01720 CONTRACTOR SURVEYS.

1.5 MEASUREMENT BY WEIGHT

Bulk materials paid for by weight will be measured by weighing each truck load on approved scales before being placed in the work. Scales shall be of sufficient length to permit simultaneous weighing of all axle loads and shall be sensitive to a change in load of 0.2 percent throughout the range of the scales. The scale's accuracy shall conform to the applicable requirements of NIST HB 44 and shall be certified by scale servicing company or by an inspector of the State Inspection Bureau. Each load shall be accompanied by a delivery ticket certified by the weighmaster. Delivery tickets shall be collected by the Contractor, and copies thereof shall be furnished to the Contracting Officer. As a minimum, each ticket shall contain the following information:

(1) Date and time.
(2) Vehicle number.
(3) Gross weight.
(4) Vehicle tare weight.
(5) Net weight.
(6) Job total for material weighed.
(7) Signature of weighmaster.

1.6 MEASUREMENT UNITS

When materials are measured in units other than the measurement units specified as the basis of payment, the measured quantities shall be converted to the specified unit of measure. Factors for conversions from one basis or unit of measurement to another shall be approved by the Contracting Officer.

1.7 UNIT PRICES

Payment items for the work of this contract are listed in the BIDDING SCHEDULE and described below. The payment items provided for on the bidding schedule embody the majority of the work; but the work descriptions provided below do not specifically discuss all incidental work required to complete the contract work.

1.7.1 Bonds

Bonds will be paid for on a job basis in accordance with FAR 52.232-5.

1.7.2 Bridge

1.7.2.1 Payment

Payment will be made for costs associated with operations necessary for construction of the designated bridge. Work includes, but is not limited to, earthwork for structure, riprap, bridge substructure (except steel piles), bridge superstructure, metal railings, and paint coatings and finishes.

1.7.2.2 Unit of Measure

Unit of measure: lump sum.

1.7.3 Bridge Approaches

1.7.3.1 Payment

Payment will be made for costs associated with operations necessary for

construction of the approaches for the designated bridge. Work includes, but is not limited to, clearing and grubbing, topsoil stripping, culverts, aggregate base course, bituminous pavement, overlook areas, erosion control, site furnishings, and topsoiling and seeding. Work associated with the South Bridge from station 119+00 to station 125+10.32 shall not be included in the payment for this item and shall be paid for as part of the South Bridge Recreational Trail bid item.

1.7.3.2 Unit of Measure

Unit of measure: lump sum.

1.7.4 South Bridge Recreational Trail

1.7.4.1 Payment

Payment will be made for construction of the recreational trail from station 119+00 to station 125+10.32 for the South Bridge. Work includes, but is not limited to, clearing and grubbing, topsoil stripping, excavation, fill, aggregate base course, bituminous pavement, erosion control, topsoiling and seeding, and bond costs.

1.7.4.2 Unit of Measure

Unit of measure: lump sum.

1.7.5 Landscaping

1.7.5.1 Payment

Payment will be made for costs associated with operations necessary for construction landscaping for the designated bridge. Work includes, but is not limited to, exterior plants.

1.7.5.2 Unit of Measure

Unit of measure: lump sum.

1.7.6 Steel H-Pile

1.7.6.1 Payment

Payment will be made for costs associated with furnishing, delivering, and driving permanent piles for the designated bridge, which includes costs of fabricating, coating, handling, driving, and splicing piles; conducting pile driving tests; furnishing, installing, and operating a pile driving analyzer; measuring pile heave; redriving heaved piles; cutting off piles at the cutoff elevation and removing cutoffs from the work site; compiling and submitting pile driving test and installation records; backfilling voids around piles; and any other items incidental to driving piles to the required elevation. No payment will be made for misplaced piles or piles exceeding the maximum limits for rotation, lateral deviation, and variation in alignment. No payment will be made for piles impaired during driving to the extent that they are determined by the Contracting Officer to be unsuitable for the work.

1.7.6.2 Measurement

Permanent piles will be measured for payment for driving on the basis of

lengths, to the nearest tenth of a linear foot along the axis of each pile acceptably in place below the cutoff elevation shown.

1.7.6.3 Unit of Measure

Unit of measure: linear foot.

1.7.7 Approach Earthwork

1.7.7.1 Payment

Payment will be made for costs associated with earthwork for construction of approaches for the designated bridge. Work includes, but is not limited to, excavating, hauling, filling, grading, compacting, locating borrow materials, and disposing of excess materials. Earthwork associated with the South Bridge from station 119+00 to station 125+10.32 shall not be included in the payment for this item and shall be paid for as part of the South Bridge Recreational Trail bid item.

1.7.7.2 Unit of Measure

Unit of measure: lump sum.

1.7.8 Levee Closure & Road Raise

1.7.8.1 Payment

Payment will be made for furnishing all materials, equipment and labor and performing all operations necessary for constructing the levee closure and raising the profile of the existing aggregate maintenance road over the new levee. Work includes, but is not limited to, placement and compaction of impervious and select impervious fill, construction of road embankment and turn around, aggregate base and surfacing, bollards, and replacement or installation of signage as needed. Restoration of driveway, driveway culverts, fences, and other items damaged that are not paid for elsewhere are incidental to the price bid. Material for the levee will be stockpiled near the closure site for use by the Contractor.

1.7.8.2 Unit of Measure

Unit of measure: lump sum.

1.7.9 Dynamic Testing of Piles

1.7.9.1 Payment

Payment will be made for costs associated with conducting dynamic pile tests; furnishing, installing, and operating gages and a pile driving analyzer and reducing its data; and compiling and submitting test reports.

1.7.9.2 Measurement

Dynamic testing of piles will be measured for payment on the basis of the contract unit price per dynamic pile test.

1.7.9.3 Unit of Measure

Unit of measure: each

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 GENERAL

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Import/Export of Data

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format.

Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

Particular attention is directed to other clauses which have a direct relationship to the reporting to be accomplished through QCS:

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS,
52.232-5 PAYMENTS UNDER FIRM FIXED PRICE CONSTRUCTION CONTRACTS,
Section 01320 PROJECT SCHEDULE,
Section 01330 SUBMITTAL PROCEDURES,
Section 01451 CONTRACTOR QUALITY CONTROL

There is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the

Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

Hardware

IBM-compatible PC with 200 MHz Pentium or higher processor

32+ MB RAM

4 GB hard drive disk space for sole use by the QCS system

3 1/2 inch high-density floppy drive

Compact disk (CD) Reader

Color monitor

Laser printer compatible with HP LaserJet III or better, with minimum 4 MB installed memory.

Connection to the Internet, minimum 28 kbps

Software

MS Windows 95 or newer version operating system (MS Windows NT 4.0 or newer is recommended)

Word Processing software compatible with MS Word 97 or newer

Internet browser

The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

Electronic mail (E-mail) compatible with MS Outlook

1.4 RELATED INFORMATION

1.4.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

1.4.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed at the Contractor's CQC System Manager

training classes (Reference Section 01451 CONTRACTOR QUALITY CONTROL, PARAGRAPH: QUALITY CONTROL ORGANIZATION).

1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted with file attachments, e.g., daily reports, schedule updates, payment requests. The QCS database typically shall include current data on the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, and management staff. The Contractor shall deliver Contractor administrative data in electronic format prior to the preconstruction conference.

1.6.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. The Contractor shall deliver subcontractor administrative data in electronic format prior to the preconstruction conference.

1.6.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

1.6.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections

of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

1.6.2 Finances

1.6.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

1.6.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data with file attachment(s). A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC System, prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01451 CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by Section 01451 CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch

list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

1.6.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.6.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

1.6.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.6.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

1.6.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. 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.

1.6.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS", and Section 01320 PROJECT SCHEDULE. This schedule shall be input and maintained in the RMS-QC database. The updated schedule data shall be included with each pay request submitted by the Contractor.

1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data.

1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.8 DATA SUBMISSION

The Contractor shall submit updates, payment requests, correspondence and other data in the format directed by the Contracting Officer. Submission formats available include diskettes, CD-ROM, or E-mail. Generally, E-mail is preferred for submissions from the Contractor's home office, and diskette or CD-ROM is preferred for submissions from the contractor's field office.

Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs will be submitted in accordance with the following:

1.8.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

1.8.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

1.8.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an

acceptable QCS export file is received.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification.

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SECTION 01320

PROJECT SCHEDULE

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-01 Preconstruction Submittals

Initial Project Schedule; G,COR Periodic Updates; G,COR

Five copies of the initial project schedule shall be submitted. Two copies of periodic project schedule updates shall be submitted.

SD-04 Samples

Software;

The Contractor shall furnish the Government copies of the scheduling software if required under paragraph COMPUTER SOFTWARE REQUIREMENTS.

1.2 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS

2.1 COMPUTER SOFTWARE REQUIREMENTS

The Contractor shall furnish the Government with the software to be used, unless waived by the Contracting Officer. The Contactor shall assist in installing the software in the Government resident office. The Contractor shall provide the software complete, including documentation and updates used in the Contractor's system. The software shall remain the property of the Contractor, but shall be in the possession of and for the exclusive use by the Government during the contract period. The Government shall have rights to install the software on 3 computers (resident office, area office, and district office).

PART 3 EXECUTION

3.1 GENERAL

Pursuant to the Contract Clause, SCHEDULES FOR CONSTRUCTION CONTRACTS (FAR

52.236-15), 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 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 progress payments.

3.2 BASIS FOR PAYMENT

The project schedule shall be the basis for measuring Contractor progress. The Contracting Officer will use an approved project schedule 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, then the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until the project schedule updates have been accepted.

3.3 SOFTWARE

Computer software systems utilized by the Contractor to produce the project schedule shall be capable of providing all requirements of this specification.

3.3.1 Use of the Critical Path Method

The project schedule shall clearly show the critical path. If a network analysis system is used, the Critical Path Method (CPM) of network calculation shall be used to generate the project schedule, provided in either the Precedence Diagram Method (PDM) or the Arrow Diagram Method (ADM).

3.3.2 Level of Detail Required

The project schedule shall include an appropriate level of detail. 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

The Contractor shall breakout lump-sum or sum-job contract line items into subcategories, or activities. The number of activities shall be sufficient to allow the progress to be accurately determined between payment periods.

3.3.2.2 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 calender 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, and delivery.

3.3.2.3 Critical Activities

The following activities shall be listed as separate line activities on the

Contractor's project schedule:

a. Submission and approval of as-built drawings.

b. Prefinal inspection.

c. Correction of punchlist from prefinal inspection.

d. Final inspection.

3.3.2.4 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 property, and notice to proceed for phasing requirements.

3.3.2.5 Responsibility

All activities shall be identified in the project schedule by the party (Prime Contractor, subcontractor, Government agency, etc.) responsible to perform the work. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.6 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 schedule. 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 notice to proceed to the contract completion date. The notice to proceed date shall be taken as the date that notice to proceed was acknowledged.

3.3.3.1 Constraint of Last Activity

Completion of the last activity in the project schedule shall be constrained by the contract completion date. If the early finish of the last activity falls after the contract completion date, then the critical path shall show a negative float.

3.3.3.2 Early Project Completion

If the project schedule shows project completion prior to the contract completion date, the Contractor shall identify activities that have been accelerated and activities that are scheduled in parallel to support the "early" completion. The Contractor shall assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract completion date.

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 falls after the interim completion date.

3.3.5 Default Progress Data Disallowed

The Contractor shall document the actual start and actual finish dates on the daily quality control report for every in-progress or completed activity and ensure that the data contained on the daily quality control reports is the sole basis for project schedule updating. 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.

3.3.6 Out-of-Sequence Progress

The Contracting Officer shall be notified prior to work on any activities that are out-of-sequence with the project schedule. The Contractor shall update the project schedule to correct any out-of-sequence work.

3.3.7 Extended Non-Work Periods

Non-work periods of over 5 working days shall be identified by addition of activities that represent the delays.

3.3.8 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.

3.4.1 Initial Project Schedule Submission

The project schedule shall provide a reasonable sequence of activities which represent work through the entire contract period and shall be at a reasonable level of detail.

3.4.2 Periodic Updates

Based on the result of progress meetings, the Contractor shall submit periodic project schedule updates. The Contractor shall furnish information and project schedule data, which in the judgement of the Contracting Officer, is necessary for verifying the Contractor's progress.

3.4.3 Standard Activity Coding Dictionary

The Contractor shall submit, with the initial project schedule, a coding scheme that shall be used throughout the project schedule for all activity codes contained in the project schedule. The coding scheme submitted shall list the values for each activity code category and translate those values into project specific designations. For example, a responsibility code value, "ELE", may be identified as "Electrical Subcontractor". Activity code values shall represent the same information throughout the duration of the contract.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted for each project schedule submission:

3.5.1 Earnings Report

The Contractor shall submit a compilation of the Contractor's Total Earnings on the project through the most recent Monthly Progress Meeting. Activities shall be grouped by contract line item. The printed report shall contain, for each contract line item: activity number, activity description, original budgeted amount, total quantity, quantity to date, percent complete (based on cost), and earnings to date. A total project percent complete shall also be provided. If necessary to substantiate partial payment and requested by the Contracting Officer, the earnings report shall detail activities within a contract line item.

3.5.2 Network Diagram

A network diagram shall be required on the initial project schedule submission and on periodic submissions when requested by the Contracting Officer (not less than quarterly). 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 network diagram shall be constructed to meet the following conditions:

a. Continuous Flow. Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity or event number, description, duration, and estimated earned value shall be shown on the diagram.

b. Project Milestone Dates. Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

c. Critical Path. The critical path shall be clearly shown.

d. 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.

e. 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 onsite 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.

3.6.1 Meeting Attendance

The Contractor's project manager and the Contractor's authorized representative responsible for preparation of the project schedule 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 every third 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. The Contractor shall address the following minimum set of items, on an activity by activity basis, during each progress meeting.

a. Start and Finish Dates. The actual start and actual finish dates for each completed activity. The actual start and projected finish dates for each activity in-progress.

b. 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 defects.

c. Project Schedule Changes. All changes pertaining to notice to proceed on change orders, change orders to be incorporated into the project schedule, Contractor proposed changes in work sequence, corrections to project schedule for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

d. Other Changes. Other changes required due to delays in completion of any activity or group of activities include unusually severe weather, product procurement, or other delays or work stoppages which make re-planning the work necessary.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, the Contractor shall furnish such justification, project schedule data and supporting evidence as the Contracting Officer may deem necessary for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract.

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 an approved project schedule and other factual information. Delays that are caused by the Contractor's own actions 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 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 cause(s) of the change.

c. An analysis of the overall impact of the changes proposed.

d. If requested by the Contracting Officer, the Contractor shall provide an interim project schedule update with revised activities.

3.8 DIRECTED CHANGES

If notice to proceed is issued for undefinitized work, the Contractor shall submit proposed project schedule revisions to the Contracting Officer within 14 calender days of the notice to proceed being issued. The proposed revisions to the project schedule must 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; and the Contractor shall update the project schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached.

3.9 OWNERSHIP OF FLOAT

Float available in the project schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

SD-01 Preconstruction Submittals

SD-02 Shop Drawings

SD-03 Product Data

SD-04 Samples

SD-05 Design Data

SD-06 Test Reports

SD-07 Certificates

SD-08 Manufacturer's Instructions

SD-09 Manufacturer's Field Reports

SD-10 Operation and Maintenance Data

SD-11 Closeout Submittals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

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 Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The 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.

1.4 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 Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.6 MEASUREMENT AND PAYMENT

The work of this section will not be measured for payment. The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the 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 (ENG FORM 4288)

At the end of this section is a submittal (ENG Form 4288) showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor shall maintain a submittal register for the project in accordance with Section 01312 QUALITY CONTROL SYSTEM (QCS).

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 review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. The submittal register shall provide for a reasonable timely distribution of shop drawings as they are prepared (particularly within a specific discipline, i.e.: structural, mechanical).

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the CQS software. Hardcopies will be furnished to the Contractor if the CQS software is not used on this contract. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

3.5.1 Submittal Copies

The Contractor shall submit 6 hardcopies of each submittal (both government approved and for information only), or 1 hardcopy and 1 electronic copy, unless otherwise indicated. Each transmittal shall address only one submittal item. Transmittals returned for resubmission shall be resubmitted in their entirety. When approved by the Contracting Officer, routine test reports and delivery tickets may be submitted with daily quality control reports in place of following submittal procedures under this section.

3.5.2 Schedule

Shop drawings shall be submitted with ample time to secure Government approval prior to the time the items covered thereby are to be delivered to the site. Additional time should be allowed for possible resubmittal. Materials fabricated or delivered without Government approval of the shop drawing will be subject to rejection. All submittals shall be made prior to commencement of applicable work, and allow adequate time for government review acceptable to the Contracting Officer.

3.5.3 Shop Drawings

Shop drawings shall be reproductions on high quality paper with clear legible print. Drawings shall generally be bordered a minimum of one inch and trimmed to neat lines. Shop drawing quality will be subject to approval. Each shop drawing, including catalog data, shall be identified with a title block including the name of the Contractor, contract number, name and location of project, and name of the item of work or structure to which the shop drawing applies. Catalog data, including specifications and full descriptive matter, may be submitted as shop drawings. Catalog data must be supplemented as necessary to include all pertinent data to verify conformance to the contract documents. When catalog data includes non applicable data, the applicable data shall be clearly indicated.

3.5.4 Warranties

Any items that are submitted for review or approval of the Contracting officer should include a copy of the manufacturer's standard warranty if one is available.

3.5.5 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control it's procurement operations to ensure that each individual submittal 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, the submittals will be identified as having received approval by being so stamped and dated. Five copies of the submittal will be retained by the Contracting Officer and 1 copy of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the 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 the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiatingthis form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR ☐ FIO ☐ GOV'T. APPROVAL

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)* *b.*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruction No. 6)* *h.*	FOR CE USE CODE *i.*
				SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*			

REMARKS	**I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.** _____ NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A -- Approved as submitted.

B -- Approved, except as noted on drawings.

C -- Approved, except as noted on drawings. Refer to attached sheet resubmission required.

D -- Will be returned by separate correspondence.

E -- Disapproved (See attached).

F -- Receipt acknowledged.

FX -- Receipt acknowledged, does not comply as noted with contract requirements.

G -- Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

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		01000	SD-02 Shop Drawings																
			Construction Access Routes		G COR														
		01320	SD-01 Preconstruction Submittals																
			Initial Project Schedule		G COR														
			Periodic Updates		G COR														
			SD-04 Samples																
			Software																
		01355	SD-01 Preconstruction Submittals																
			Environmental Protection Plan	1.7	G ENV														
		01500	SD-02 Shop Drawings																
			Site Plan		G COR														
			Government Field Office		G COR														
		01565	SD-01 Preconstruction Submittals																
			Application		G PM														
			SD-02 Shop Drawings																
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			Control Plan																
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			Notice of Termination (NOT)																
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			As-Built Drawings		G GEN														

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		02240	SD-01 Preconstruction Submittals															
			Dewatering/Unwatering Plan															
			Shoring plan															
			Cofferdam plan															
		02300	SD-03 Product Data															
			Borrow Sources		G	GT												
			SD-06 Test Reports															
			Testing															
			Daily Report Forms															
		02315	SD-06 Test Reports															
			Testing	3.13														
		02388	SD-03 Product Data															
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		02463	SD-02 Shop Drawings															
			Pile Splices	2.2.1	G	STR												
			Pile Placement	3.2.3	G	STR												
			Pile Driving Records	3.2.2														
			SD-03 Product Data															
			Pile and Driving Equipment		G	STR												
			Pile Driving Records	3.2.2	G	STR												
			Delivery, Storage, and Handling	1.3	G	STR												
			Wave Equation Analysis															

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			Dynamic Testing of Piles	3.3.1															
		02620	SD-07 Certificates																
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			SD-07 Certificates																
			Pipe Certification																
		02720	SD-01 Preconstruction Submittals																
			Aggregate Sources		G MAT														
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			Aggregate Test Report																
			Testing																
			SD-07 Certificates																
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		02741	SD-01 Preconstruction Submittals																
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		02870	SD-02 Shop Drawings																
			Benches		G GEN														
			Signs		G GEN														
			Bollards		G GEN														
			SD-03 Product Data																

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			Form Materials	2.1														
			Form Releasing Agents	2.1.6														
		03200	SD-02 Shop Drawings															
			Reinforcement	3.1	G MAT													
			SD-03 Product Data															
			Welding	1.3														
			SD-07 Certificates															
			Reinforcing Steel	2.1														
			Splicing Lap Lengths															
		03300	SD-03 Product Data															
			Mixture Proportions	1.5	G MAT													
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		03360	SD-02 Shop Drawings															
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			Panel		G COR													
		05500	SD-02 Shop Drawings															
			Metal Railing		G STR													
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			Anchors															
		07900	SD-03 Product Data															

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		07900	Sealant		G MAT													
		09900	SD-03 Product Data															
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SECTION 01355

ENVIRONMENTAL PROTECTION

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.

CODE OF FEDERAL REGULATIONS (CFR)

33 CFR 328	Definitions
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

US ARMY CORPS OF ENGINEERS TECHNICAL REPORT

WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (e.g. methyl ethyl ketone, toluene etc.), waste thinners,excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

1.2.5 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

1.2.6 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

1.2.7 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers,creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

1.2.8 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.2.9 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

1.6 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,ENV

The environmental protection plan.

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor

considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.

c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.

d. Description of the Contractor's environmental protection personnel training program.

e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.

f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.

g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.

h. 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 including methods for protection of features to be preserved within authorized work areas.

i. Drawing showing the location of borrow areas.

j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer, and the local Fire Department for flamable materials, in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.

2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

3. Training requirements for Contractor's personnel and methods of accomplishing the training.

4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

6. The methods and procedures to be used for expeditious contaminant cleanup.

k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction.

l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.

m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.

n. A contaminant prevention plan that: identifies potentially

hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

p. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

q. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (e.g. pounds per acre), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, Regional and Local pest management record keeping and reporting requirements.

1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached,as an appendix, to the Environmental Protection Plan.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.

Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

1.9 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings,plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.10 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental 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 the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping (suspending) all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law. The failure of the Contracting Officer to notify the Contractor of any noncompliance with Federal, State, or local environmental laws or regulations, permits, or the Contractor's Environmental Protection Plan shall not relieve the Contractor of the duty to comply with those laws or regulations, permits, or the Contractor's Environmental Protection Plan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PERMITS

Permits obtained by the Government related to the work of this contract are attached in Section 00830: ATTACHMENTS, or referenced in Section 01000: GENERAL. The Contractor is responsible for obtaining all applicable permits or licenses, except those obtained by the Government. The Contractor shall be responsible for implementing the terms and requirements of the permits held by the Contractor or the Government. A copy of permits

referenced in Section 01000: GENERAL are available for inspection in the Office of the District Engineer, Army Corps of Engineers Centre, 190 Fifth Street East, St. Paul, Minnesota 55101-1638.

3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees and other landscape features to be preserved shall be determined and staked by the Contracting Officer. Contractor shall clearly identify these landscape features by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs). BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. Any temporary measures shall be removed after the area has been stabilized.

3.2.4 Contractor Facilities and 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 only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering and removal of cofferdams shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractor shall plan its operations and perform all work necessary to minimize adverse impact, such as water turbidity, on the habitat for wildlife and on water quality for downstream use.

3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands, unless authorized herein. The Contractor shall be responsible for the protection of wetlands shown on the drawings. Authorization to enter specific wetlands identified shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; 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 other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical

treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with state rules.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Solid wastes (excluding dredge material and clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill shall be the minimum acceptable off-site solid waste disposal option. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from

other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations. The Contractor shall transport Contractor generated hazardous waste off Government property in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations.

3.5.5 Waste Water

Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways.

3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs.

3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area are shown on the drawings, or will be designated by the Contracting Officer, if any have been identified. The Contractor shall protect these resources and shall be responsible for their preservation during the life of the Contract. If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.8 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

3.9 PESTICIDES

3.9.1 Pesticide Delivery and Storage

Pesticides shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Pesticides shall be stored according to manufacturer's instructions and under lock and key when unattended.

3.9.2 Qualifications

For the application of pesticides, the Contractor shall use the services of a subcontractor whose principal business is pest control. The subcontractor shall be licensed and certified in the state where the work is to be performed.

3.9.3 Pesticide Handling Requirements

The Contractor shall formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and shall use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Material Safety Data Sheets (MSDS)shall be available for all pesticide products.

3.9.4 Application

Pesticides shall be applied by a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator shall wear clothing and personal protective equipment as specified on the pesticide label. Water used for formulating shall only come from locations designated by the Contracting Officer. The Contractor shall not allow the equipment to overflow. Prior to application of pesticide, all equipment shall be inspected for leaks, clogging, wear, or damage and shall be repaired prior to being used.

3.10 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

3.11 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.12 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.13 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause 52.236-12 CLEANING UP. The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01451

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SECTION 01451

CONTRACTOR QUALITY 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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

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

1.2 PAYMENT

The Contractor shall be responsible for the work for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent or someone higher in the Contractor's organization.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall receive direction and authority from the CQC System Manager and shall serve as a member of

the CQC staff. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be maintained at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 2 years experience in related duties on construction similar to this contract, or a person with a minimum of 5 years experience in related duties on construction work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall not have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 Additional Requirement

In addition to the above qualifications, the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered through the Government in the Minneapolis - St. Paul, Minnesota metropolitan area.

3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that protion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the 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 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 the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a testing laboratory meeting the requirements listed under PARAGRAPH: CAPABILITY CHECK, or establish a testing laboratory at the project site meeting those requirements. 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

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329. The Contractor shall submit a Quality Management Manual meeting the requirements of ASTM D 3740 and ASTM E 329 for each laboratory to be used, including on-site project laboratories.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of $1000.00 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Contracting Officer. Coordination for each specific test, exact delivery location, and

dates will be made with the Contracting Officer.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/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.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

The following sample forms are enclosed at the end of this section:

a. Construction Quality Control (CQC) Management Report

b. Preparatory Phase Checklist

c. Initial Phase Checklist

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses 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 part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

CONSTRUCTION QUALITY CONTROL (CQC) MANAGEMENT REPORT

Contractor Production

Contractor's Name

_____

_____

Daily Report No:_____ Date:_____
Contract No.:_____

Project Title & Location: _____

Weather:_____ Precipitation:_____in. Temp.:_____Min._____Max.

1. Contract/Subcontractors and Area of Responsibility:

NUMBER:	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION OF WORK

2. Operating Plant or Equipment. (Not hand tools)

Plant/Equipment	Date of Arrival/Departure	Date of Safety Check	Hours Used	Hours Idle	Hours Repair

CQC Management Report (cont.)

3. Work performed today: (Indicate location and description of work performed by prime and/or subcontractors by letter in table above).

4. Results of control activities: (Indicate whether P - Preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete attachment 1-A or 1-B, respectively. When network analysis system is used, identify work by use of I-J numbers)

5. Test performed as required by plans and/or specifications:

6. Material received:

CQC Management Report (cont.)

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action

8. Off-site surveillance activities, including action taken:

9. Job safety: (Report violations; Corrective instructions given; Corrective actions taken).

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or Specifications)

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.

CQC System Manager

PREPARATORY PHASE CHECKLIST

Contract No.: _____ Date: _____
Definable Feature: _____ Spec Section: _____

Government Rep Notified_____ Hours in Advance Yes ____ No ____

I. Personnel Present.

	Name	Position	Company/Government
1.			
2.			
3.			
4.			
5.			
6.			
7.			

(List additional personnel on reverse side)

II. Submittals.

1. Review submittals and/or submittal log 4288. Have all submittals been approved? Yes _____ No _____

If No, what items have not been submitted?
a._____
b._____
c._____

2. Are all materials on hand? Yes _____ No _____
a._____
b._____
c._____

3. Check approved submittals against delivered material. (This should be done as material arrives).

Comments:_____
_____

III. Material Storage.
Are materials stored properly? Yes _____ No _____
If No, what action is taken?
_____

Preparatory Phase Checklist (Cont'd)

IV. Specifications.

1. Review each paragraph of specifications.

_____
_____
_____

2. Discuss procedure for accomplishing the work.

_____
_____
_____
_____
_____
_____

3. Clarify any differences.

_____
_____
_____
_____
_____

V. Preliminary Work.
Ensure preliminary work is correct.
If not, what action is taken?_____
_____

VI. Testing.

1. Identify test to be performed, frequency, and by whom.
_____
2. When required? _____
3. Where required?_____
4. Review Testing Plan._____
5. Has test facilities been approved? _____

VII. Safety.
1. Review applicable portion of EM 385-1-1._____
_____
2. Activity Hazard Analysis approved? Yes _____ No _____

VIII. Corps of Engineers comments during meeting.

_____
_____
_____

_____
CQC System Manager

INITIAL PHASE CHECKLIST

Contract No.:_____ Date:_____

Definable Feature:_____

Government Rep Notified:_____ Hours in Advance Yes_____ No _____

I. Personnel Present:

Name	Position	Company/Government
1.		
2.		
3.		
4.		
5.		
6.		

(List additional personnel on reverse side)

II. Identify full compliance with procedures identified at preparatory. Coordinate plans, specifications, and submittals.
Comments: _____

III. Preliminary Work. Ensure preliminary work is complete and correct. If not, what action is taken? _____

IV. Establish Level of Workmanship.
1. Where is work located? _____
2. Is a sample panel required? Yes _____ No_____
3. Will the initial work be considered as a sample? Yes_____No_____
(If yes, maintain in present condition as long as possible).

V. Resolve any Differences.
Comments:_____

Review job conditions using EM 385-1-1 and job hazard analysis.
Comments: _____

_____
CQC System Manager

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SECTION 01500

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SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

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

Site Plan; G, COR

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

Government Field Office; G, COR

The Contractor shall submit a preliminary plan and description of the mobile office facilities which it proposes to furnish prior to proceeding with procurement thereof.

1.2 GROUNDS AND ROADWAYS

1.2.1 Availability of Grounds

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings. Any additional rights-of-entry or grounds desired by the Contractor shall be obtained by the Contractor at its own expense, and copies of agreements for the use of such rights-of-entry shall be furnished to the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damages resulting from the use of the grounds.

1.2.2 Drainage Facilities

Insofar as natural drainage from the protected areas is obstructed by contract operations, it shall be the Contractor's responsibility to make adequate provision for accommodating such drainage in a satisfactory manner during the life of this contract, either by temporary means or by use of the permanent construction and operation of the permanent facilities.

1.3 AVAILABILITY AND USE OF UTILITY SERVICES

1.3.1 Temporary Electrical Facilities

The Contractor shall be responsible for coordination and costs for electrical power required for the Contractor's operations, including all costs for utility company hookup, installation/dismantling of transformers and distribution lines. In general, the Contractor shall establish it's own service connection with the utility company. If the Contractor proposes to use an existing Government service connection, a request shall be submitted for approval to verify the Contractor's use will not interfere with operation of the facilities, and the monthly service fees will be paid for in whole (including Government power consumption) by the Contractor.

1.3.2 Sanitation

The Contractor shall provide and maintain within the construction area field-type sanitary facilities in accordance with EM 385-1-1. These facilities shall include but not be limited to toilet, washing, and drinking water facilities.

1.3.3 Telephone

The Contractor shall make arrangements and pay all costs for their telephone facilities desired. Government personnel will not take or deliver messages for the Contractor.

1.4 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. Dust control shall be provided as stated in Section 01355 ENVIRONMENTAL PROTECTION.

1.4.1 Off-Site Haul routes

The Contractor shall be responsible for securing all permits required along haul routes. The Contractor shall be the sole permittee and shall be responsible for meeting all obligations of the permits. A copy of each permit shall be submitted to the Contracting Officer. The Contractor, as between the Government and the Contractor, has sole responsibility for damage or deterioration of the Contractor's haul routes.

1.4.2 On-Site 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.

1.4.3 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.

1.5 CONTRACTOR'S TEMPORARY FACILITIES

1.5.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.5.2 Staging Area

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings as Work Limits. Trailers, materials, or equipment shall not be placed or stored outside the work limits.

1.6 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.

1.7 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. 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.

PART 2 PRODUCTS

2.1 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

2.1.1 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.

2.1.2 Project and Safety Signs

The Contractor shall furnish and erect two Project signs and one Safety sign in locations selected by the Contracting Officer at the project site within 15 days after receipt of the notice to proceed. One project sign shall be located at one bridge on the Minnesota side of the Red River of the North, and one project sign shall be located at the other bridge on the North Dakota side of the Red River of the North. The requirements for the signs and their content shall be as shown on the drawings at the end of this section. The data required by the safety sign shall be corrected daily. Signs shall be maintained throughout the construction period, and upon completion of the project, the signs shall be removed from the site. The PROJECT DESCRIPTION and PROJECT NAME shall be as follows:

PROJECT DESCRIPTION: RECREATION
RED RIVER OF THE NORTH
GRAND FORKS, ND AND EAST GRAND FORKS, MN

PROJECT NAME: PEDESTRIAN BRIDGES

2.2 GOVERNMENT FIELD OFFICE

The Contractor shall provide and maintain for the life of the contract an approved mobile office (mobile home style) meeting the following requirements as to space and facilities for the exclusive use of the government. The unit shall be ready for occupancy within 30 calendar days after notice to proceed. The unit shall provide a minimum of 400 square feet of floor area and shall include two private offices, each having approximately 100 square feet of floor area and a storage closet. The unit shall have two entrance doors. The remaining space is to be utilized as one large office, a toilet room, a chest of drawers and a storage area for coats, etc. The unit shall be provided with a toilet room consisting of a stool and lavatory and an electric heater. The unit interior headroom shall be no less than a nominal 8'-0".

2.2.1 Location

The Contractor shall locate the portable mobile home type field office at or near the Contractor's field office site at a location approved by the Contracting Officer. Four parking spaces shall be reserved for Government vehicles at the Government trailer.

2.2.2 Construction.

The Government field office shall be similar in quality and age as the Contractor's field office, if provided. Exterior and interior finishes shall be free from color fade, chipping, or peeling. The unit shall be set level on blocking, be provided with plywood skirting, and be anchored to the ground for protection against wind damage. Exterior doors shall be provided with screens and outside hasps for use with padlocks. The unit shall be electrically wired for fluorescent ceiling lighting fixtures and weather proof porch lights at each entrance door, along with switches, duplex convenience outlets, and a master switch and fuse box as required. The entire unit shall be adequately insulated with fiberglass insulation and vapor barrier. Dead air crawl space shall be properly ventilated. Heating and air conditioning facilities shall be provided to maintain an ambient inside temperature of 68 degrees F. The unit shall be weather proof, and furnished with a forced air type heating plant, either gas or oil with hot and cold air ducts adequate to supply even heat throughout the unit. Air conditioning shall be furnished with capacity as recommended by the manufacturer for the trailer size. A central air conditioning system shall be provided.

2.2.3 Utilities.

The Contractor shall be responsible for service fees in connection with electrical power and heating (natural gas or oil service). The Contractor shall also be responsible for service fees in connection with the water supply, sanitary waste system, and telephone as indicated below. When available, city water and sewer system connections are preferred.

a. Sanitary Facilities. In the absence of a city sewer connection, holding tanks shall be provided. The lavatory shall discharge into an outside underground holding tank with a capacity of not less than 400 gallons and a vented drain. The contractor shall provide year-round pumping of the holding tank as required. Subject to approval, a serviced chemical toilet may be used.

b. Potable Water. In the absence of a city water connection, a potable water storage tank of not less than 300 gallons capacity shall be furnished with adequate supply filling connections and screened vent, and shall be stainless steel or plastic with a drain cock of not less than ½ inch size. Upon completion of the job, the Contractor shall remove the underground holding tank and backfill the excavation. The Contractor shall provide potable water for the storage tank if service connections are not provided.

c. Telephone. The Contractor shall be responsible for installation of telephone at the Government office. The telephone hook-up should be placed on a separate account from the Contractor's phone so that it can be transferred to the Government after installation. The Government will be responsible for the telephone service to the Government field office after installation.

2.2.4 Furnishings.

The following furnishings shall be provided for the Government office:

a. A hot and cold drinking water dispenser.

b. Bulletin board, minimum size 6 square feet.

c. A cabinet shall be supplied along a side wall with minimum nominal dimensions 2 feet wide, 3 feet high and 6 feet long. The cabinet shall include a finished wood or laminate counter. Two shelves, one above

and one below the cabinet, shall be provided for storage.
d. Sign. The contractor shall securely attach to the unit exterior and adjacent to the main entrance door, as approved, a 24 inch by 36 inch sign with the Corps of Engineers castle insignia with wording as specified.
e. Stoop. A stoop with 8 inch risers and handrails shall be provided at each entrance door.
f. Windows. All windows shall be provided with sash and security screens along with shades, blinds or similar features that allow for the complete coverage of the windows on the inside.
g. Lavatory. A 5 by 24 inch metal shelf and 15 by 20 inch wood or metal framed plate glass mirror shall be provided above the lavatory.

2.2.5 Furniture

Office furniture shall be coordinated with respect to style, color, and upholstery. The following furniture shall be provided:

a. Two desks either wood or steel, double pedestal type, top approximately 60 inches by 34 inches, with lock.
b. Two swivel armchairs with tilting seat and adjustable spring back.
c. Two filing cabinets, four-drawer legal size, with lock.
d. One drafting table stool, non-tilting, rotary type with back and circular footrest.
e. One drafting table, metal and/or wood, 36 inches by 48 inches.
f. One conference table, 3/4 inch thick by 72 inches long by 36 inches wide with solid core construction top.
g. Eight chairs for conference table, either wood or steel construction, with cushioned seat and backrest.
h. One rack for hanging full size drawings.

2.2.6 Office Equipment

The following equipment shall be provided:

a. One desk top facsimile (FAX) machine with modem BPS speeds of 9600,7200,4800, and 2400; an effective scanning width of 11.7 inches and line scanning density of 8 pels/mm horizontal and an effective scanning width of 7.7 inches and line scanning density of 3.85 lines/mm vertical. Initially supply four reams of paper(500 sheets per ream).
b. One desk top copying machine with an indirect dual component dry tone process. Paper copy sizes shall be a maximum of 11 inches by 17 inches and a minimum of 4.25 inches by 5.5 inches. The machine shall have a halogen lamp light source and an automatic sheet feed (single cassette). Initially supply four reams (500 sheets per ream) of white copying paper and furnish a complete maintenance service contract/agreement for the machine.

2.2.7 Maintenance

The Contractor shall maintain the field office for the life of the contract. The Contractor shall be responsible for maintaining and paying for all costs associated with the following services:

a. Supplies. Toilet paper, paper toweling, paper and supplies for the FAX and copy machines shall be provided. Supply water for the drinking water dispensor. Supply water for the lavatory if a service connection is not provided for potable water.
b. Maintenance of office equipment. Include a maintenance service

contract/agreement for operation of the Fax and Copy machines.
c. Janitorial Service. The Contractor shall provide daily janitorial service and provide all janitorial and sanitary supplies as well as trash removal service.
d. Snow removal. Maintenance of site access including snow removal service is the responsibility of the contractor.

PART 3 EXECUTION

3.1 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site. 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.

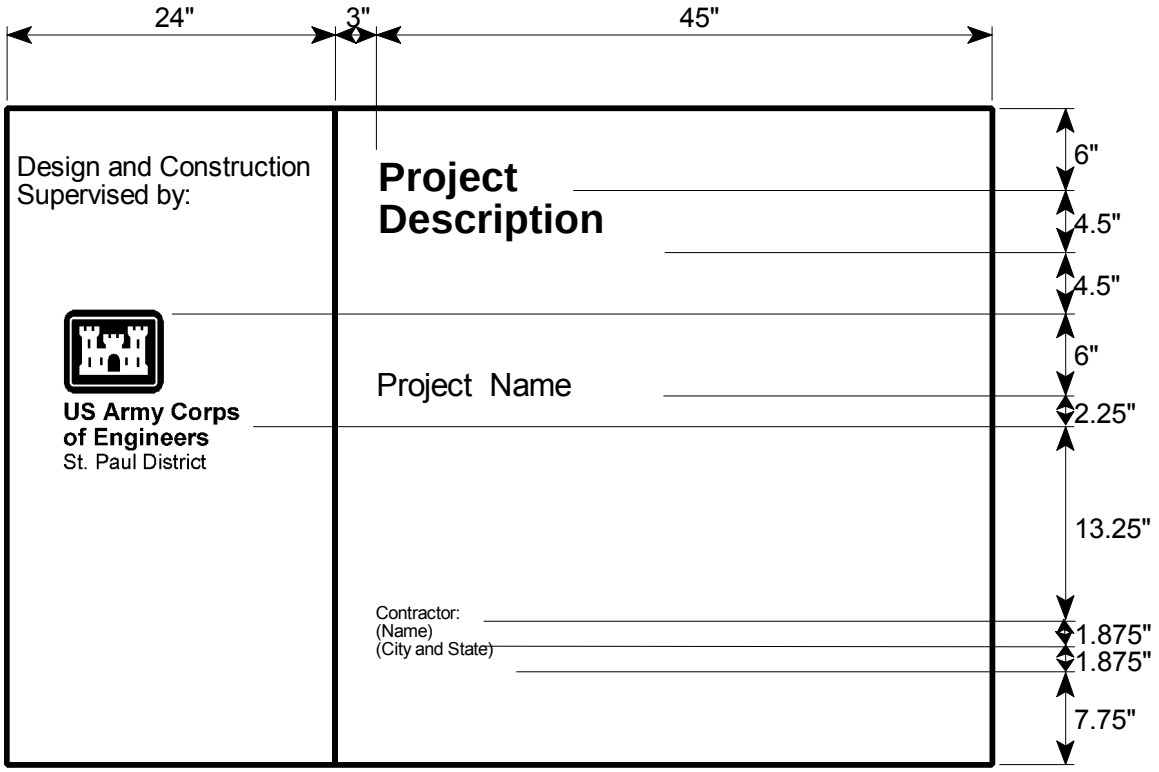
3.2 RESTORATION OF STORAGE AREA

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.

-- End of Section --

PROJECT SIGN

The graphic format tor this 4' x 6' sign panel follows the legend guidelines and layout as specified below. The large 4' x 4' section of the panel on the right is to be white with black legend. A 2' x 4' decal provided by the Corps shall be placed on the left side of the sign panel.



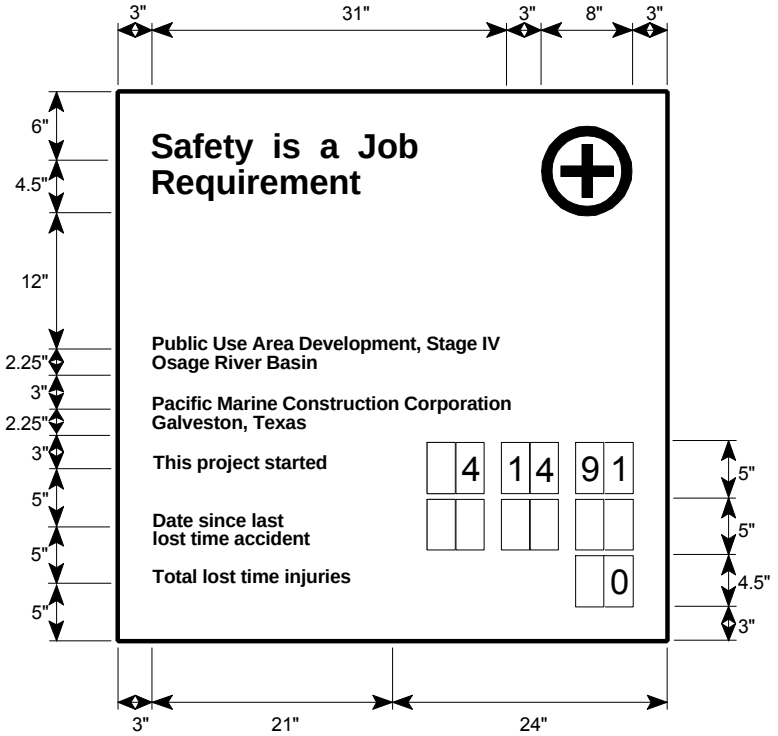
Project Description:
One to three line project title legend describes the work being done under this contract.
Color: Black; Typeface: 3" Helvetica Bold; Maximum line length: 42".

Project Name:
One to three line identification of project or facility.
Color: Black; Typeface: 1.5" Helvetica Bold; Maximum line length: 42".
Cross-align the first line of PROJECT NAME with the first line of the Corps Signature as shown.

Contractor:
One to five line identification of prim e contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state.
Color: Black; Typeface: 1.25" Helvetica Bold; Maximum line length: 21".

All typography is flush left and ragged right, upper and lowe r case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

SAFETY SIGN



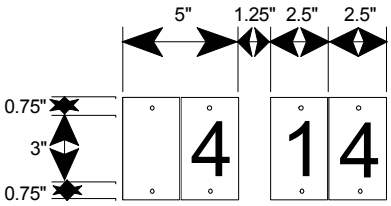
All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with (8" od.) Safety Green First Aid logo. Typeface: 3" Helvetica Bold; Color: Black.

Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

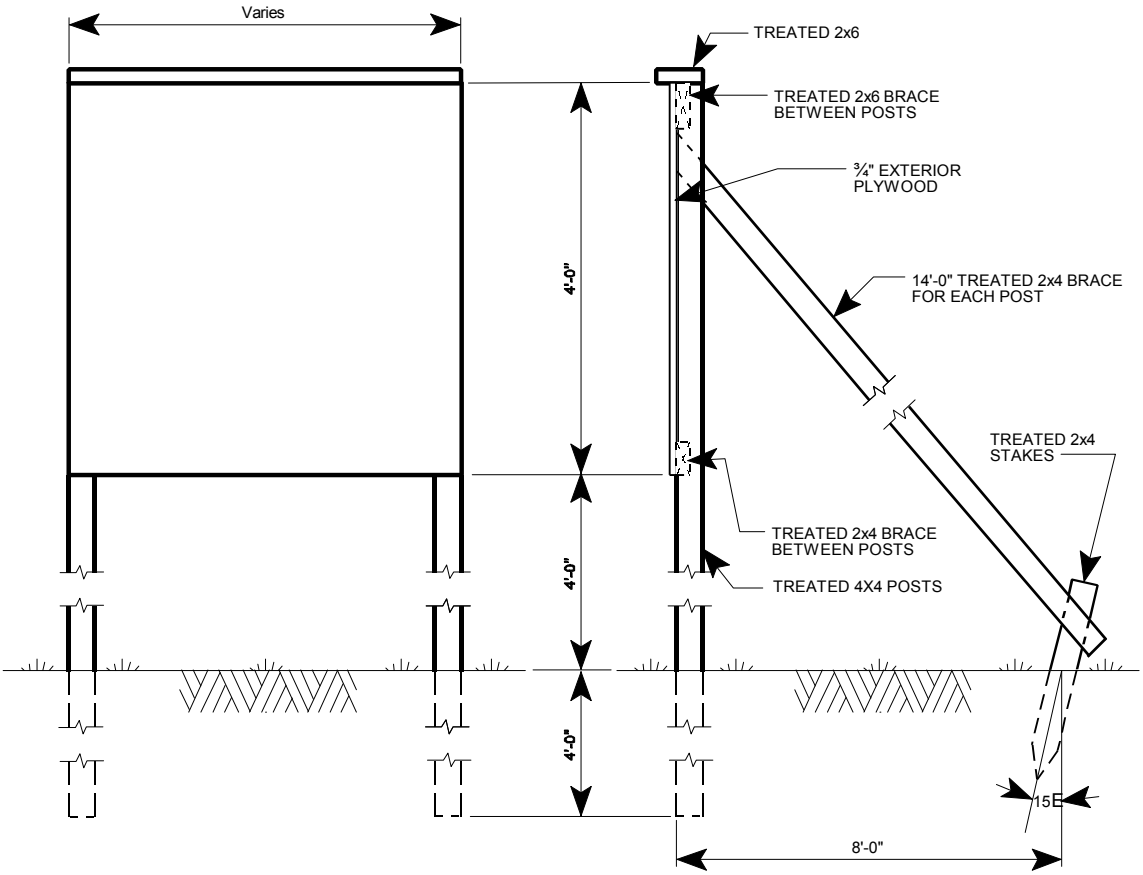
Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

Legend Group 4: Standard safety record captions as shown. Typeface: 1.25" Helvetica Regular; Color: Black.



Replaceable numbers are to be mounted on white 0.060 aluminum plates and screw-mounted to background. Typeface: 3" Helvetica Regular; Color: Black; Plate size: 2.5" x 4.5".

SIGN ERECTION DETAILS



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SECTION 01565

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-- End of Section Table of Contents --

SECTION 01565

MINNESOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PART 1 GENERAL

1.1 GENERAL

This section covers best management practices to be implemented for prevention of storm water pollution as required by the National Pollutant Discharge Elimination System (NPDES). The Minnesota Pollution Control Agency is responsible for administering permits for NPDES in the state of Minnesota. The Government has determined that the project work included under this contract requires NPDES permitting. The requirements herein supplement those covered in Section 01355 ENVIRONMENTAL PROTECTION.

1.1.1 Definitions

The following terms apply to this specification and the general permit, unless redefined in subsequent paragraphs.

a. "EPA" means the United States Environmental Protection Agency.
b. "NPDES" means the National Pollutant Discharge Elimination System.
c. "BMP" means Best Management Practices.
d. "General Permit" means the general permit authorization to discharge storm water associated with a construction activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program.
e. "Owner" as referred to in the general permit shall mean the Federal Government.
f. "MPDES" means the Minnesota Pollutant Discharge Elimination System.

1.1.2 Contract Drawings

The following features are shown on or can be determined from the contract drawings:

a. The drainage patterns and approximate slopes anticipated after the major grading activities.
b. Areas of soil disturbance.
c. The location(s) where stabilization practices are expected to occur.
d. Typical details showing suggested Best Management Practices (BMP's) for erosion and sediment control.
e. Waters of the State.
f. Final site stabilization.

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 D 6461	(1999) Silt Fence Materials
ASTM D 6462	(1999) Silt Fence Installation

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA/832/R-92/005	Storm Water Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices

MINNESOTA DEPARTMENT OF TRANSPORTATION (MDOT)

MNDOT 3885	Standard Specifications for Construction (2000 Edition), Erosion Control Blankets
MNDOT 3887	Standard Specifications for Construction (2000 Edition), Flotation Silt Curtain

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

Application; G,PM

A copy of the Application for General Storm Water Permit for Construction Activity (MPCA Form PQ00641) shall be submitted to the Contracting Officer at the same time it is transmitted to the state.

SD-02 Shop Drawings

Temporary Erosion And Sediment Control Plan;

A specific Temporary Erosion and Sediment Control Plan shall be submitted in accordance with PARAGRAPH: PERMIT COMPLIANCE AND ADDITIONAL REQUIREMENTS.

SD-11 Closeout Submittals

Notice of Termination (NOT);

A copy of the notice of termination shall be submitted to the Contracting Officer at the same time it is transmitted to the state.

1.4 PERMIT COMPLIANCE AND ADDITIONAL REQUIREMENTS

The Contractor shall comply with the requirements of General Permit No. MNR100001. The following define additional requirements and clarify which requirements of the General Permit are to be performed by either the

Contractor, the Government, or both.

1.4.1 Schedule

No contract project construction activities which require an NPDES permit may commence until the state's general permit is valid.

1.4.2 Temporary Erosion and Sediment Control Plan

The contract drawings show typical details of suggested best management practices (BMP's) for erosion and sediment control taken from EPA/832/R-92/005. The BMP's, together with applicable portions of the site drawings and specifications form an initial plan for temporary erosion and sediment control. The Contractor shall finalize and implement the plan. The finalized plan, together with documentation, shall be in accordance with the general permit. The plan shall be maintained at the site and made available to federal, state, and local officials as requested. The Contractor shall determine the specific BMP's for erosion and sediment control (including the types, locations, and installation scheduling of erosion and sediment controls). These BMP's and corresponding material specifications and shop drawings shall be included in the Plan.

1.4.3 Application

The Application for General Storm Water Permit for Construction Activity must be signed by the Government and the Contractor. A blank copy of the application form is included at the end of this section. Immediately after contract award, the Contractor shall complete parts I, II and V of the application form, obtain signature by the Government, and submit the form to the state. The application shall be post marked at least 48 hours in advance of any ground breaking activities. The Contractor is responsible for payment of the application fee.

1.4.4 Permanent erosion and sediment control plan

The Government has developed the Permanent Erosion and Sediment Control Plan and will maintain availability of the plan to federal, state, and local officials as required in the General Permit.

1.5 MEASUREMENT AND PAYMENT

The contactor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS

2.1 SILT FENCE

Silt fence shall be manufactured and installed as shown on drawings. On level sites with minimal potential for sediment loading, the wire fabric may be omitted. Silt fence shall conform to ASTM D 6461 and shall be installed in accordance with ASTM D 6462.

2.2 STRAW BALES

Straw shall be baled from oats, wheat, rye, barley, rice, or other coarse fiber vegetation that will percolate water. Hay baled from grass, alfalfa

and clover is not acceptable.

2.3 OTHER PRODUCTS

Any products proposed for use that are not included on drawing Z2-22 shall be described fully, with catalog cuts and manufacturer's instructions for use, in the temporary erosion and sediment control plan. Other products, if proposed in the final plan, shall meet the following requirements:

Erosion control blankets shall meet MNDOT 3885
Floatation Silt Curtain shall meet MNDOT 3887

PART 3 EXECUTION

As between the Government and the Contractor, the Contractor shall be responsible for fulfilling the obligations of the general permit for the following sections:

Part I-C: Records
Part I-D: Erosion and Sediment Control During Construction
Part I-E: Inspection and Maintenance
Appendix A: Temporary Erosion and Sediment Control Plan

3.1 IMPLEMENTATION

The Contractor shall install the sediment and erosion control system in accordance with the plan submitted to the Contracting Officer. The BMP's shall be modified if inspection indicates distress to the system or reveals unforeseen circumstances, or if directed by the Contracting Officer. Any updates to the plan shall be recorded. Permanent stabilization shall be initiated as soon as practicable in any portion of the site where construction activities are complete.

3.2 MAINTENANCE

The Contractor shall be responsible for implementing and managing the erosion and sediment control BMP's before and during the construction activities; and ensure that the Plan will be implemented and stay in effect until the work has been completed, the entire work site has undergone final stabilization, and a Notice of Termination has been submitted to the Contracting Officer and the state permitting authority.

3.3 RECORDS

The contractor shall record on CQC reports: (1) dates when major stripping and grading activities occur, (2) dates when construction activities temporarily or permanently cease on a portion of the site, (3) when permanent stabilization practices are initiated, and (4) activities associated with inspection and maintenance.

3.4 ATTACHMENTS

Application for General Storm Water Permit for Construction Activity (MDNR Form with instructions) 8 Pages

MPDES General Permit No. MN R100001 26 Pages

Pedestrian Bridges

-- End of Section --

This form is for new permit applications only.
Existing permittees must use *Application for Permit Transfer/Modification* to transfer a permit to one party or *Subdivision Registration* for multiple parties.

Minnesota Pollution Control Agency

National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS)

Application for General Storm-water Permit for Construction Activity (MN R100001)

Minnesota Pollution Control Agency
REM Division, Construction Storm-water Permit Program
520 Lafayette Road North, St. Paul, MN 55155-4194

MPCA use only

ID # _____

Check # _____

Please refer to the application instructions and the NPDES/SDS General Storm-water Permit for Construction Activity (MN R100001) as you complete this form. See brackets [ ] for specific permit references.
Call the MPCA Customer Assistance Center at 651-297-2274 or 800-646-6247 (in Minn.) for assistance.

Permit Application Prerequisites

1. Storm-water Pollution Prevention Plan (SWPPP)

a. Has a Storm-water Pollution Prevention Plan been developed for this project and incorporated into the project's plans and specifications? [Part III.A] ☐**Yes** ☐**No**

b. Are erosion prevention measures addressed in the SWPPP? [Part IV.B] ☐**Yes** ☐**No**

c. Are sediment control measures addressed in the SWPPP? [Part IV.C] ☐**Yes** ☐**No**

d. Are dewatering and basin draining addressed in the SWPPP? [Part IV.D] ☐**Yes** ☐**No**

e. Are inspections and maintenance addressed in the SWPPP? [Part IV.E] ☐**Yes** ☐**No**

f. Are pollution prevention management measures addressed in the SWPPP? [Part IV.F] ☐**Yes** ☐**No**

g. Is final stabilization addressed in the SWPPP? [Part IV.G] ☐**Yes** ☐**No**

h. If an environmental review was required, did you incorporate all storm-water related mitigation measures contained in the review into the SWPPP? ☐**NA** ☐**Yes** ☐**No**

STOP if you responded **no** to any question above. A SWPPP must be developed prior to submitting a permit application. Complete the above requirements and check **yes** before submitting this application. **Continue** if you responded **yes** or **na** to all questions above.

2. Discharges to Special Waters

Mark **NA** if no discharges described below will occur.

a. Are all storm-water discharges that may flow from the project to a Special Water that is located within 2,000 feet of any project discharge points addressed in the SWPPP to meet the permit conditions in Appendix A, Part A-C? ☐**NA** ☐**Yes** ☐**No**

STOP if you responded **no**. Complete the above requirements and check **yes** before submitting this application. **Continue** if you responded **yes**.

3. Additional Application Review

a. Will the project include alternative treatment methods? [Part III.C.5] ☐**Yes** ☐**No**
If **yes**, this application and the alternative treatment plans must be submitted a minimum of 90 days before construction starts.

b. If **yes**, are the plans attached? ☐**Yes** ☐**No**

c. Will the project disturb 50 acres? AND Is there a discharge point within 2000 feet of an impaired or special water whose discharge may reach an impaired or special water listed in Appendix A of the permit? [Part II.B.1.b] ☐**Yes** ☐**No**
If **yes**, this application and the SWPPP must be submitted a minimum of 30 days before construction starts.

d. If **yes**, is the SWPPP attached? ☐**Yes** ☐**No**

4. Application Fee Is the required $400 Application Fee enclosed? ☐**Yes**

01565-Attachment

Construction Activity Information

5. Project Name

6. Project Location

Briefly describe where construction activity occurs - Example: Intersection of 45th Street and Irving Avenue. *Include address if available*

City or Township | State MN | Zip Code

County Parcel ID # *Attach list if necessary*

All cities where construction will occur

All counties where construction will occur | All townships where construction will occur

7. Project Size _____
Number of acres to be disturbed

8. Project Map Is the required 8 ½ x 11" United States Geological Survey (USGS) 7.5 minute quad or equivalent map indicating site boundaries attached? ☐ **Yes**

9. Project Type ☐ Residential ☐ Commercial/Industrial ☐ Road Construction

☐ Other _____

10. Cumulative Impervious Surface

a. Existing area of impervious surface _____ (to the nearest quarter acre)

b. Post construction area of impervious surface _____ (to the nearest quarter acre)
If new impervious surface created by the project is less than one acre, skip to question 12.

11. Permanent Storm-water Management What types (check all that apply) of permanent storm-water management will be used if more than one acre of new impervious surface is created by the project? [Part III. C]

☐ Wet Sedimentation Basin ☐ Infiltration/Filtration ☐ Regional Ponding
☐ Alternative Methods *(If using alternative methods, construction cannot commence until receiving approval from the MPCA.)*

☐ Other _____
Specify reason and list other treatment allowed by Part III. C

12. Receiving Waters Identify surface waters within ½ mile of project boundary that will receive storm water from the site or discharge from permanent storm-water management system. Include waters shown on USGS 7.5 minute quad or equivalent **and** all waters identified in Appendix A of the permit. Add additional paper if needed.

Name of Water Body	**Type** (ditch, pond, wetland, lake, stream, river)	**Appendix A special water?**
		☐ **Yes** ☐ **No**
		☐ **Yes** ☐ **No**
		☐ **Yes** ☐ **No**
		☐ **Yes** ☐ **No**

13. Dates of Construction ___/___/___ ___/___/___
a. Construction Start Date b. Estimated Completion Date

Responsible Parties

14. Owner

Business or Firm Name			Federal Tax ID	State Tax ID	
Last Name	First Name	Title	E-mail	Telephone *(include area code)*	
Mailing Address			City	State	Zip Code
Alternate Contact Last Name	First Name		E-mail	Telephone *(include area code)*	

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

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Storm-water Permit Construction Activity (MN R100001) that authorizes storm-water discharges associated with the construction site identified on this form.

Authorized Signature Date

This Application must be signed by:

- ***Corporation:*** *a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.*
- ***Partnership or Sole Proprietorship:*** *a general partner or the proprietor.*
- ***Municipality, State, Federal or Other Public Agency:*** *principal executive officer or ranking elected official.*

15. Contractor

Business or Firm Name			Federal Tax ID	State Tax ID	
Last Name	First Name	Title	E-mail	Telephone *(include area code)*	
Mailing Address			City	State	Zip Code
Alternate Contact Last Name	First Name		E-mail	Telephone *(include area code)*	

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

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Authorized Signature Date

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- ***Corporation:*** *a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.*
- ***Partnership or Sole Proprietorship:*** *a general partner or the proprietor.*
- ***Municipality, State, Federal or Other Public Agency:*** *principal executive officer or ranking elected official.*

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Minnesota Pollution Control Agency

Protecting Minnesota's Environment and Quality of Life

APPLICATION INSTRUCTIONS
for
MINNESOTA'S NPDES/SDS GENERAL STORM-WATER PERMIT
for
CONSTRUCTION ACTIVITY

Submission of an application is notice that the owner and general contractor identified on the application intend to be authorized by an NPDES/SDS permit issued for storm-water discharges associated with a construction activity in the State of Minnesota.

Permit Application Prerequisites

For Questions 1-3, please refer to the NPDES/SDS General Storm-water Permit for Construction Activity and the flowchart at the end of these instructions.

1. Indicate if a **Storm-water Pollution Prevention Plan** (SWPPP) has been prepared and the appropriate sections (a through h of this question) have been addressed by answering **"Yes" or "No"**. A SWPPP is a plan for storm-water discharge that includes erosion prevention measures and sediment controls that, when implemented, will decrease soil erosion on a parcel of land and decrease pollution in receiving waters. This plan must be developed prior to submitting a permit application. A sample plan and development tools are available on the U.S. Environmental Protection Agency web page at http://cfpub1.epa.gov/npdes/stormwater/swppp.cfm

   For section "h" indicate if an **Environmental Review** has been completed if required, by answering **"Yes" or "No" or "NA"**. Environmental review looks at how a proposed project could potentially affect the environment and looks at ways to avoid or minimize impacts before the project is permitted and built. Examples of categories that may need an environmental review include residential development; industrial, commercial, and institutional facilities; and also highway projects. For certain projects, environmental review is mandatory. For more details see the *Guide to Minnesota Environmental Review Rules*, Chapter 6. This can be found at http://www.mnplan.state.mn.us/pdf/rulguid3.pdf

2. Indicate if **discharges to special waters** have been identified and addressed by answering **"Yes" or "No" or "NA"** (not applicable) on the Permit Application. The questions at the right can help in making this determination.

   Special waters have qualities that warrant extra protection. A list of these special water categories can be found in Appendix A of the permit. For information on special waters near the project's area, see the Minnesota Pollution Control Agency (MPCA) Web page at http://www.pca.state.mn.us/publications/wq-strm1-05.xls

Special Waters

2.a. Do you have a special water that is within 2,000 feet of the project?
(see Appendix A of the Permit for a list of these Special water categories)

2.b. Do you have storm-water discharges that are within 2,000 feet of these special waters?

2.c. Will the discharges identified in 2.b. flow to the special waters?

01565-Attachment

3. Indicate by answering **"Yes" or "No"** whether the project will include **alternative methods** for the permanent storm-water management system or will disturb **50 acres or more** and have a discharge point (including sheet flow) that is within 2000 feet of and flows to an impaired or special water. Additional review from the MPCA is required in these cases.

   You have the option of proposing an alternative, innovative, permanent storm-water management system. You must send in the permit application and the additional required information (see Part III.C.5 of the Permit) at least **90** days prior to the start of construction if you choose this approach. You must receive an approval letter from the MPCA for this method before beginning construction.

   The application and SWPPP need to be submitted to the MPCA a minimum of **30** days prior to the start of construction if the project disturbs 50 acres or more and drains to an impaired water or a special water listed in Appendix A of the permit. For a list and maps of impaired waters in MN go to www.pca.state.mn.us/water/tmdl.html

4. The application requires a $400 application **fee**. Indicate that the application fee has been enclosed by answering **"Yes"**. Please make checks payable to: **Minnesota Pollution Control Agency** and submit the check with the completed application to: MPCA, Regional Environmental Management Division, 520 Lafayette Road North, St. Paul, MN 55155-4194. Applications received without the required fee will be returned to the sender.

Construction Activity Information

5. List the construction project's **name**. If the project does not have a name, list the **type of project** and a **brief description** (**for example**, "I-35E/I-494 Interchange" or "Highway 169 bridge replacement (#79605) at the Rum River").

6. Provide an **address** (if available) and **brief description** of the construction activity's location (**for example**, "North West Corner of the Intersection of 45th Street and Irving Avenue, Minneapolis, MN").

   List the **County Parcel ID#** for the project if it is known. If there are multiple numbers within the project, attach a list. Parcel Identification Numbers are unique numbers assigned by the County. Listing the County Parcel ID# is not required if not available (for example, highway projects)

   Provide the names of all cities, counties, and townships the construction activity takes place in (**for example**, a roadway may cross county, city, or township boundaries).

7. List, in acres, the **amount** of area to be **disturbed** for this project.

8. **Attach** the required **map** and indicate that it is included with the permit application. United States Geological Survey (USGS) 7.5-minute quad maps or equivalent maps may be used.
   USGS 7.5-minute quad maps may be ordered at
   http://edc.usgs.gov/Webglis/glisbin/finder_main.pl?dataset_name=MAPS_LARGE

9. Indicate the type of construction activity by **checking the appropriate box**. Please describe the project if you check "Other".

10. Indicate to the nearest quarter acre, the existing and resulting **areas of impervious surfaces**. Impervious surface means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. **Examples** include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. (a.) "Existing" area means the area of impervious surface that is present prior to the start of this construction project. (b.) "Post construction" means the entire area of impervious surface after construction is completed. Subtract (a.) from (b.) to determine the area of new impervious surface.

11. For projects creating one or more acres of cumulative new impervious surfaces, **check the appropriate box** to indicate which type(s) of **permanent storm-water management practices** that will be used. The "Other" box is limited to those situations (such as proximity to bedrock) that are described in Part III.C of the permit. See the permit for a further description. If the "Other' box is checked, describe which situation outlined in Part III. C. fits the project and what other permanent treatment (such as grassed swales, smaller ponds and/or grit chambers) will be used on the project.

12. BRIEFLY describe which **waterbody(s)** will receive storm-water runoff from the construction site or from the discharge from permanent storm-water management systems by **completing the table**. To determine which waterbody(s) will receive storm-water runoff discharges, make a brief survey of the project's surrounding area. Include the waters identified on a USGS 7.5-minute quad or equivalent map. See Appendix A of this permit to determine if a waterbody is a special water.

13. List the **start** and estimated **completion dates** of the construction project (**for example**, 9/18/03).

Responsible Parties

14. **Owner Information:** Provide the information requested of the owner of the company, organization, or other entity for which this construction project is being done. The **Owner** means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity. **The owner is the party responsible for the compliance with all terms and conditions of the permit.** The **alternate contact** should be the owner's representative in charge of the project (**for example**, Sandy Smith, Inspector; Joe Johnson, Project Manager; etc).

    After completing this application, certify it with a **signature and date** from an individual authorized to sign the application. This application form must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the activity is being conducted by a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer or ranking elected official (**for example**, city or county engineer, administrator, or manager; director of public works; mayor, etc.) For additional information, see Minnesota Rules 7001.0060.

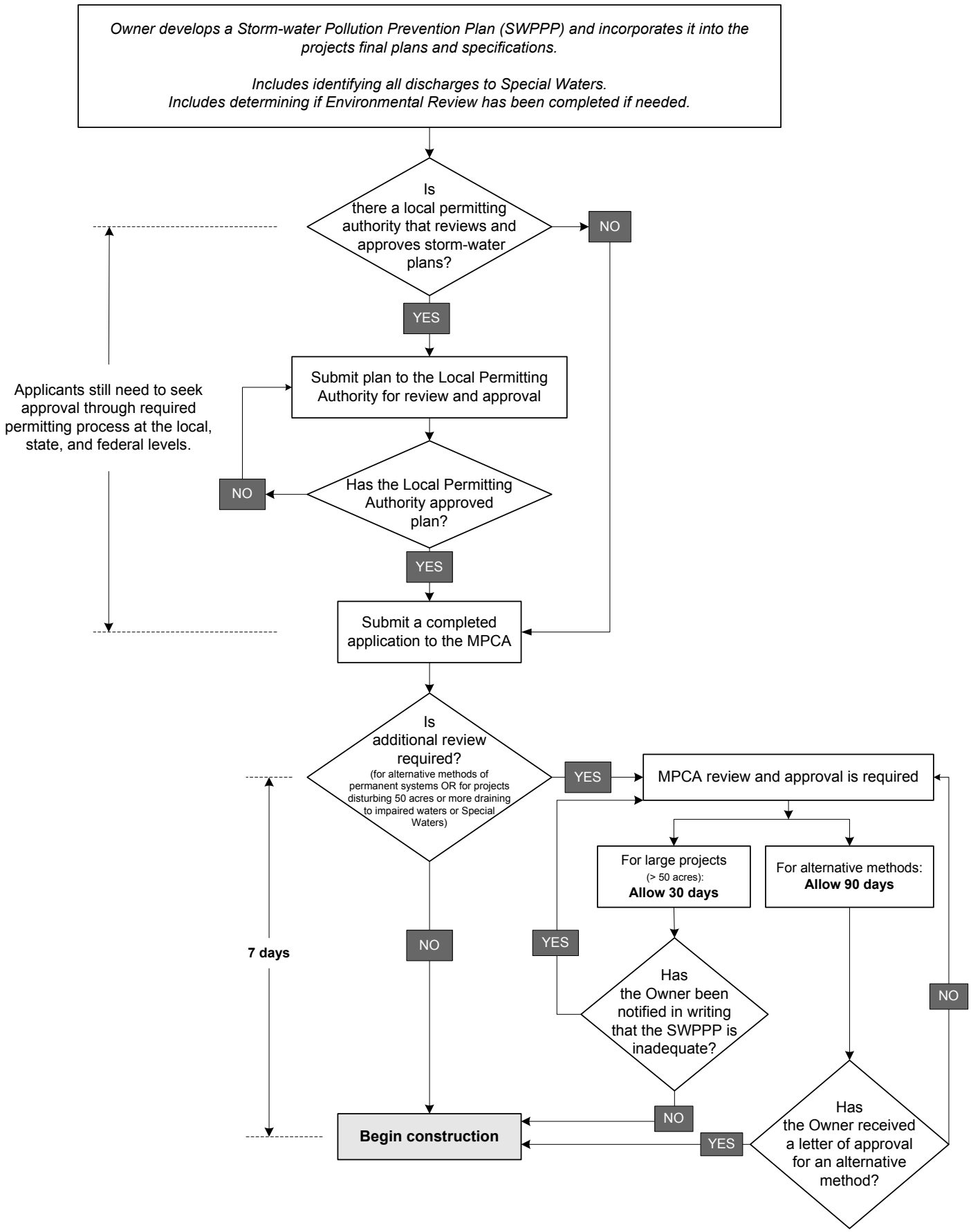
15. **Contractor (Operator) Information:** Provide the information requested of the contractor. The **Contractor** means the party who signs the construction contract with the owner to construct the project described in the final plans and specifications. Where the construction project involves more than one contractor, the general contractor will be the party responsible for managing the project on behalf of the owner. In some cases the owner may be the general contractor. In these cases, the owner may contract an individual as the operator who would be the co-permittee. **The operator (usually the general contractor) is jointly responsible with the owner for compliance with part II.B., part II.C., and part IV of the permit.**

    After this application has been completed by the owner, the contractor must certify it with a **signature and date** from an individual authorized to sign the form. The application must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the general contractor is a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer, ranking elected official, administrator, manager, coordinator, or engineer. (For additional information, see Minnesota Rules 7001.0060.) The **alternate contact** should be the contractor's representative in charge of the project (**for example**, Scott Marshall, Head Foreman; Ann Johnson, Project Manager, etc.).

Send the completed application and fee to:

MPCA
Regional Environmental Management Division
520 Lafayette Road North
St. Paul, MN 55155-4194

Questions? Contact the MPCA Customer Assistance Center at (800) 646-6247 or (651) 297-2274.
For businesses with fewer than 100 employees, contact the MPCA Small Business Assistance Program at (800) 657-3938.


Owner develops a Storm-water Pollution Prevention Plan (SWPPP) and incorporates it into the projects final plans and specifications.
Includes identifying all discharges to Special Waters.
Includes determining if Environmental Review has been completed if needed.
Is there a local permitting authority that reviews and approves storm-water plans?
NO
YES
Submit plan to the Local Permitting Authority for review and approval
Applicants still need to seek approval through required permitting process at the local, state, and federal levels.
Has the Local Permitting Authority approved plan?
NO
YES
Submit a completed application to the MPCA
Is additional review required?
(for alternative methods of permanent systems OR for projects disturbing 50 acres or more draining to impaired waters or Special Waters)
YES
MPCA review and approval is required
For large projects
(> 50 acres):
Allow 30 days
For alternative methods:
Allow 90 days
7 days
NO
YES
Has the Owner been notified in writing that the SWPPP is inadequate?
NO
Has the Owner received a letter of approval for an alternative method?
YES
NO
Begin construction

GENERAL PERMIT
AUTHORIZATION TO DISCHARGE
STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM/STATE DISPOSAL SYSTEM PERMIT PROGRAM

ISSUANCE DATE: August 1, 2003 EXPIRATION DATE: August 1, 2008

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq.; hereinafter, the "**Act**"), 40 CFR 122, 123, and 124, as amended, et seq.; Minn. Stat. Chs. 115 and 116, as amended, and Minn. R. Ch. 7001:

This permit regulates the discharges of **storm water** to the **waters of the state** of Minnesota associated with **construction activity**. This permit covers the **storm water** discharges identified in Part I.A. of this permit. The limitations on permit coverage are identified in Part I.B. of this permit.

This permit requires the development and implementation of a **Storm Water Pollution Prevention Plan (SWPPP)**. No person shall commence **construction activity** covered by Part I.A. until permit coverage under this permit is effective or, if applicable, until the Minnesota Pollution Control Agency (MPCA) has issued an individual NPDES/SDS construction **storm water** permit for the project. The **SWPPP** must be completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee**.

Unless notified by the MPCA to the contrary, applicants who submit a completed application (including permit fee) in accordance with the requirements of this permit are authorized to discharge **storm water** from construction sites under the terms and conditions of this permit 7, 30, or 90 days after the postmarked date of the completed application as described in Part II.B.

Coverage under this permit will remain in effect until the **owner** has submitted a **Notice of Termination**, regardless of the above expiration date.

Signature: Daniel D Tolby as Board Member

for Minnesota Pollution Control Agency

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact the appropriate MPCA offices.

Minnesota Pollution Control Agency
Construction Storm Water Program
520 Lafayette Road North
St. Paul, MN 55155-4194
Telephone (651) 297-2274

wq-strm2-51

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PART I. PERMIT COVERAGE AND LIMITATIONS

A. PERMIT COVERAGE

1. This permit is required for **storm water** discharges associated with **construction activity** and with **small construction activity** as defined in 40 C.F.R. part 122.26(b)(14)(x) and (b)(15), respectively.

2. This permit authorizes, subject to the terms and conditions of this permit, the discharge of **storm water** associated with **construction activity** and **small construction activity.**

   Construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb five (5) acres or more.

   Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres. **Small construction activity** does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

3. This permit covers all areas of the state of Minnesota.

4. For Parts I.B through Appendix A of this permit, all reference to **construction activity** includes both **small construction activity** and **construction activity**.

B. LIMITATIONS OF COVERAGE

This permit does not cover the following activities:

1. Discharges or releases that are not **storm water** except those non-**storm water** discharges authorized under Part IV.D.

2. The placement of fill into **waters of the state** requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits, Department of Natural Resources Public Waters Work Permits or Local Governmental Unit Wetland Conservation Act replacement plans or determinations).

3. **Storm water** discharges associated with industrial activity that originate from the site after construction activities have been completed and the site has undergone **final stabilization**. Post-construction industrial **storm water** discharges may need to be covered by a separate NPDES/SDS permit.

4. Non-point source agricultural and silvicultural discharges excluded from **NPDES** permit requirements under 40 CFR part 122.3(e).

5. **Discharges** to the waters identified below unless the requirements of Appendix A. are complied with:

a. Discharges into outstanding resource value waters (ORVWs) as defined in Minn. R. 7050.0180, subp. 3 and 6, except calcareous fens listed in Minn. R. 7050.0180, subp. 6.b.

b. Discharges into Trout waters as listed in Minn. R. 6264.0050, subp. 2 and 4.

c. Discharges into **Wetlands** as listed in Minn. R. 7050.0130, item. F.

d. Discharges from projects that have not met applicable Environmental Review requirements under state or federal laws.

e. Discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species or adversely modify a designated critical habitat.

f. Discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites.

6. Discharges to calcareous fens listed in Minn. R. 7050.0180, subp. 6.b.

7. Discharges to waters for which there is a total maximum daily load (TMDL) allocation for sediment and parameters associated with sediment transport are not eligible for coverage under this permit unless the **Permittee(s)** develop and certify a **SWPPP** that is consistent with the assumptions, allocations and requirements in the approved TMDL. To be eligible for coverage under this general permit, **Permittee(s)** must incorporate into their **SWPPP** any conditions applicable to their discharges necessary for consistency with the assumptions, allocations and requirements of the TMDL within any timeframes established in the TMDL. The **SWPPP** must include the provisions in Part III.A.7. If a specific numeric wasteload allocation has been established that would apply to the project's discharges, the **Permittee(s)** must incorporate that allocation into its **SWPPP** and implement necessary steps to meet that allocation.

PART II. SUBMITTING THE APPLICATION

A. PREREQUISITE FOR SUBMITTING A PERMIT APPLICATION

The **owner** must develop a **Storm Water Pollution Prevention Plan (SWPPP)** in accordance with Part III (Storm Water Discharge Design Requirements) of this permit. The plans are not to be submitted to the MPCA (unless the project size is 50 acres or more and will discharge to certain waters as described in Part II.B.1.b.) but are to be retained by the **owner** in accordance with Part III.D (Record Retention). The applicants' failure to complete the **SWPPP** prior to submitting the application will result in the application being returned and the **storm water** discharges associated with **construction activity** will not be authorized by this permit.

B. APPLICATION AND DURATION OF COVERAGE

1. Application Required.

a. The **owner** and **operator** shall submit a completed application form (or a photocopy thereof) with the appropriate fee for project size (see application form) to the MPCA for each project which disturbs one (1) or more acres of land. The **owner** and **operator** of a **common plan of development or sale** that will ultimately disturb one (1) or more acres must submit a completed application to the MPCA.

b. For certain projects or **common plans of development or sale** disturbing 50 acres or more, the application must be submitted at least 30 days before the start of construction activity. This requirement pertains to projects that have a discharge point on the project that is within 2000 feet of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act (see MPCA's web site). Applicants must submit a completed application form and **Storm Water Pollution Prevention Plan** including all calculations for the Permanent Storm Water Management System (see Part III.A – C).

2. The **Owner** and **Operator** are **Permittee(s)**. The **owner** who signs the application is a **Permittee** and is responsible for compliance with all terms and conditions of this permit. The **operator** (usually the **general contractor**) who signs the application is a **Permittee** for Parts II.B., Part II.C. and Part IV. of this permit and is jointly responsible with the **owner** for compliance with those portions of the permit.

3. Permit Coverage. The commencement of any **construction activity** (e.g., land disturbing activities) covered under Part I.A. of this permit is prohibited until permit coverage under this permit is effective or, if applicable, until the MPCA has issued an individual NPDES/SDS construction **storm water** permit for the project.

   a. Except as provided in subp. 3.b. and 3.c. below, permit coverage will become effective <u>seven (7) days</u> after the postmarked date of the completed application form.

   b. For projects disturbing 50 acres or more, that have a discharge point on the project that is within 2000 feet of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act, the applicants must submit a completed application and **SWPPP** to the MPCA at least thirty (30) days prior to the commencement of construction activities. MPCA staff will review the **SWPPP** submitted with the completed application and unless the **Permittee** is notified in writing that the **SWPPP** does not meet the general permit requirements, permit coverage will become effective 30 days after the postmarked date or MPCA date-stamp (whichever is first) of the completed application.

   c. For proposals to use Alternative Method(s) for the Permanent Storm Water Management System under Part III.C.5, the applicants must submit a completed application and **SWPPP**, including the Alternative Method documentation under Part III.C.5, to MPCA for review and approval at least 90 days prior to the proposed starting date of **construction activity**.

      i. The MPCA will notify the applicant within the 90-day period, in writing, whether the alternative method is approved or not approved and, if applicable, the basis for denial.
      ii. The applicant may re-submit the alternative method after addressing the MPCA's basis for denial. The MPCA will respond within 30 days.
      iii. Permit coverage will become effective upon receipt of an alternative treatment method approval letter from MPCA. Any **construction activity** on the project is not covered under this permit until receiving the alternative treatment approval letter.

4. Coverage Letter. For projects under subpart 3.a. of this part, the **Permittee(s)** will receive a permit letter and certificate acknowledging permit coverage, usually within 30 days of the postmarked date of the completed application.

5. Change of Coverage. For **storm water** discharges from construction projects where the **owner** or **operator** changes, (e.g., an original developer sells portions of the property to various homebuilders) the new **owner** or **operator** must submit a subdivision registration within 7 days of assuming operational control of the site, commencing work on their portion of the site, or of the legal transfer, sale or closing on the property. For instances where an **owner** or **operator** of an entire project changes after an application has been submitted under Part II, the new **owner** or **operator** must submit an application for permit transfer/modification within 7 days of assuming control of the site or commencing work on-site, or of the legal transfer, sale or closing on the property. Late submittals will not be rejected; however, the MPCA reserves the right to take enforcement for any unpermitted discharges or permit noncompliance for the new registered party that has assumed control of the site. For **storm water** discharges from construction activities where the **owner** or **operator** changes, the new **owner** or **operator** can implement the original **SWPPP** created for the project or develop and implement their own **SWPPP**. **Permittee(s)** shall ensure either directly or through coordination with other **Permittee(s)** that their **SWPPP** meets all terms and conditions of this permit and that their activities do not render another party's **erosion prevention** and **sediment control Best Management Practices (BMPs)**."

C. TERMINATION OF COVERAGE

1. **Permittee(s)** wishing to terminate coverage under this permit must submit a **Notice of Termination** (**NOT**) to the MPCA. Compliance with this permit is required until a **NOT** is submitted. The **Permittee(s)** authorization to discharge under this permit terminates at midnight of the day the **NOT** is signed.

2. All **Permittee(s)** must submit a **NOT** within thirty (30) days after one or more of the following conditions have been met:

   a. **Final stabilization** (see Part IV.G. and definition in Appendix B) has been achieved on all portions of the site for which the **Permittee** is responsible (including the removal of all temporary measures such as silt fence, and if applicable, returning agricultural land to its pre-construction agricultural use);

   b. Another **owner**/**operator** (**Permittee**) has assumed control according to Part II.B.5 over all areas of the site that have not been finally **stabilized**; or

   c. For residential construction only, **temporary erosion protection** and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the **Permittee** must distribute the MPCA's "**homeowner factsheet**" to the homeowner to inform the homeowner of the need for, and benefits of, **final stabilization**.

3. **Permittee(s)** that use an alternative method for the permanent **storm water** management system as described in Part III.C.5, are prohibited from terminating this permit until final stabilization has been achieved on site and either:

   a. The two years of monitoring data has been submitted to the MPCA and the MPCA has determined that the required treatment has been achieved. The Permittee will be notified in writing within 30 days after the monitoring data has been submitted. If the Permittee has not heard from the MPCA within 30 days after submitting the required data, the Permittee can submit a **Notice of Termination**.

b. The Permittee can submit a **Notice of Termination**, even if the timeframe is less than two years, if the MPCA determines that the alternative method is achieving the required treatment.

During the monitoring and evaluation of the alternative method, the **Permittee** is not responsible for other permit requirements that have been transferred as described in Part II.B.5.

PART III. STORM WATER DISCHARGE DESIGN REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN

The **owner** must develop a **Storm Water Pollution Prevention Plan (SWPPP).** The **SWPPP** shall be completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee(s)**. The plan must be a combination of narrative, plan sheets and if appropriate standard detail sheets that address the foreseeable conditions, at any stage in the construction or post construction activities. The plan must include a description of the nature of the **construction activity**. The plan must address the potential for discharge of sediment and/or other potential pollutants from the site. For **storm water** discharges from construction activities where the **owner** or **operator** changes, the new **owner** or **operator** can implement the original **SWPPP** created for the project or develop and implement their own **SWPPP**. **Permittee(s)** shall ensure either directly or through coordination with other **Permittee(s)** that their **SWPPP** meets all terms and conditions of this permit and that their activities do not render another party's **erosion prevention** and **sediment control Best Management Practices (BMPs)** ineffective.

1. As part of the **SWPPP** the **owner** must identify a person knowledgeable and experienced in the application of **erosion prevention** and **sediment control BMPs** who will oversee the implementation of the **SWPPP**, and the installation, inspection and maintenance of the **erosion prevention** and **sediment control BMPs** before and during construction. The **owner** must identify who will have the responsibility for long term operation and maintenance of the permanent **storm water** management system (see Part III.C.). The **owner** shall develop a chain of responsibility with all **operators** on the site to ensure that the **SWPPP** will be implemented and stay in effect until the construction project is complete, the entire site has undergone **final stabilization**, and a **NOT** has been submitted to the MPCA.

2. The **SWPPP** must incorporate the requirements of Part III (Storm Water Discharge Design Requirements), Part IV (Construction Activity Requirements) and Appendix A for the project. A narrative describing the timing for installation of all **erosion prevention** and **sediment control BMPs** required in Part III, Part IV and Appendix A must also be included in the plan.

3. The **SWPPP** requirements must be incorporated into the project's final plans and specifications and/or project documentation, as appropriate, and must include:

   a. Location and type of all temporary and permanent **erosion prevention** and **sediment control BMPs** along with procedures to be used to establish additional temporary **BMPs** as necessary for the site conditions during construction. **Standard plates** and/or specifications for the **BMPs** used on the project must be included in the final plans and specifications for the project.

   b. A site map with existing and final grades, including dividing lines and direction of flow for all pre and post-construction **storm water** runoff drainage areas located within the project limits. The site map must also include **impervious surfaces** and soil types.

c. Locations of areas not to be disturbed.

d. Location of areas where construction will be phased to minimize duration of exposed soil areas.

e. All **surface waters** and existing **wetlands**, which can be identified on maps such as United States Geological Survey 7.5 minute quadrangle maps or equivalent maps within one-half mile from the project boundaries, which will receive **storm water** runoff from the construction site, during or after construction. Where **surface waters** receiving runoff associated with **construction activity** will not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the **surface water**.

f. Methods to be used for **final stabilization** of all exposed soil areas.

4. The **Permittee(s)** must amend the **SWPPP** as necessary to include additional requirements, such as additional or modified **BMPs**, designed to correct problems identified or address situations whenever:

   a. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to **surface waters** or **underground waters**;

   b. Inspections or investigations by site **operators**, local, state or federal officials indicate the **SWPPP** is not effective in eliminating or significantly minimizing the discharge of pollutants to **surface waters** or **underground waters** or that the discharges are causing water quality standard exceedances**;** or

   c. The **SWPPP** is not achieving the general objectives of controlling pollutants in **storm water** discharges associated with **construction activity**, or the **SWPPP** is not consistent with the terms and conditions of this permit.

   d. At any time after permit coverage is effective, the MPCA may determine that the project's **storm water** discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or that the **SWPPP** does not incorporate the requirements in Part III.A.7 related to an approved Total Maximum Daily Load (TMDL) implementation plan that contains construction **storm water** related requirements. If MPCA makes such determination(s) or any of the determinations in Parts III.A.4.a.-4.c., MPCA will notify the **Permittees** in writing. In response, the **Permittees** must develop a supplemental **BMP** action plan or appropriate **SWPPP** amendments describing **SWPPP** modifications to address the identified concerns and submit information requested by MPCA, which may include an individual permit application. If MPCA's written notification requires a response, failure to respond within the specified timeframe constitutes a permit violation.

5. The **SWPPP** must factor in any findings of and include any **storm water** mitigation measures required as the result of any environmental, archeological or other required local, state or federal review conducted for the project. For the purposes of this permit provision, mitigation measures mean avoiding, minimizing, rectifying (e.g., repairing, rehabilitating, restoring), reducing, eliminating or compensating for impacts related to: (1) **storm water** discharges associated with the project's **construction activity**; and (2) **erosion prevention**, **sediment control** and the permanent **storm water** management system for the project.

6. The **SWPPP** must provide additional measures as necessary to assure compliance with surface and ground water standards in Minn. R. chapters 7050 and 7060 in karst areas and to ensure protection of drinking water supply management areas (see Minn. R. 4725.4450).

7. If runoff from the site discharges to an impaired water which has an approved TMDL implementation plan containing requirements for construction **storm water** discharges, the **Permittee** must include the following in the SWPPP:

   a. identify the receiving water and the areas of the site discharging to it; and

   b. BMPs that are appropriate for the site and sufficient to comply with all applicable requirements of the TMDL implementation plan.

B. TEMPORARY SEDIMENT BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, a temporary (or permanent) sediment basin must be provided prior to the runoff leaving the construction site or entering **surface waters**. The **Permittee** is encouraged, but not required, to install temporary sediment basins where appropriate in areas with steep slopes or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:

1. The basins must provide storage below the outlet pipe for a calculated volume of runoff from a 2 year, 24 hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1800 cubic feet of storage below the outlet pipe from each acre drained to the basin.

2. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage below the outlet pipe per acre drained to the basin, shall be provided where attainable until **final stabilization** of the site.

3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown (e.g., perforated riser pipe wrapped with filter fabric and covered with crushed gravel, pumps or other means, see Part IV.D.) for maintenance activities, and provide a **stabilized** emergency overflow to prevent failure of pond integrity. **Energy dissipation** must be provided for the basin outlet (see Part IV.B.4).

4. The temporary (or permanent) basins must be constructed and made operational concurrent with the start of soil disturbance that is upgradient of the area and contributes runoff to the pond.

5. Where the temporary sediment basin is not attainable due to site limitations, equivalent **sediment controls** such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions. In determining whether installing a sediment basin is attainable, the **Permittee** must consider public safety and may consider factors such as site soils, slope, and available area on site. This determination must be documented in the **SWPPP**.

C. PERMANENT STORM WATER MANAGEMENT SYSTEM

All **storm water** must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing a significant adverse impact to the wetlands.

Where a project's ultimate development replaces vegetation and/or other pervious surfaces with one or more acres of cumulative **impervious surface**, a **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project must be treated by one of the methods outlined in Part III.C.1 through Part III.C.5 prior to the runoff leaving the construction site or entering **surface waters** (excluding drainage systems that convey **storm water** to a constructed permanent **storm water** management facility designed to treat the **water quality volume** from the project).

For those areas of a project where there is no feasible way to meet the treatment requirement for the **water quality volume**, other treatment such as grassed swales, smaller ponds or grit chambers is required prior to discharge to **surface waters**. A cumulative maximum of (3) three acres or 1% of project size whichever is larger can be treated in this manner.

Where the proximity to bedrock precludes the installation of any of the permanent **storm water** management practices outlined in Part III.C., other treatment, such as grassed swales, smaller ponds, or grit chambers, is required prior to discharge to **surface waters**.

For work on road projects where the lack of right of way precludes the installation of any of the permanent **storm water** management practices outlined in Part III.C., other treatment such as grassed swales, smaller ponds, or grit chambers, is required prior to discharge to **surface waters**.

1. Wet Sedimentation Basin

   a. The basin must have a permanent volume of 1800 cubic feet of storage below the outlet pipe for each acre that drains to the basin. The basin's permanent volume must reach a minimum depth of at least 3 feet and must have no depth greater than 10 feet. The basin must be configured such that scour or resuspension of solids is minimized.

   b. The basin's **water quality volume** is calculated as ½ inch of runoff from the new **impervious surfaces** created by the project.

   c. Basin outlets shall be designed such that the **water quality volume** is discharged at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the pond.
   d. Basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. Basin outlets must have **energy dissipation**.

   e. The basin must provide a **stabilized** emergency overflow to accommodate storm events in excess of the basin's hydraulic design.

   f. Adequate maintenance access must be provided (typically 8 ft. wide) for future maintenance of the basin.

2. Infiltration/Filtration

   Infiltration/Filtration options include but are not limited to: infiltration basins, infiltration trenches, rainwater gardens, sand filters, organic filters, bioretention areas, enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas and natural depressions. Infiltration must be used only as appropriate to the site and land uses. Settleable solids, floating materials, oils and grease should be removed from the runoff to the maximum extent practicable

before runoff enters the infiltration/filtration system. Filtration systems must have a reasonable chance of achieving approximately 80% removal of total suspended solids. The **Permittee(s)** must evaluate the impact of constructing an infiltration practice on existing hydrologic features (e.g., existing **wetlands**) and try to maintain pre-existing conditions (e.g., do not breach a perched water table which is supporting a **wetland**). For a discussion of ground water warnings, design measures, maintenance considerations or other retention, detention, and treatment devices, see the MPCA's **Protecting Water Quality in Urban Areas** found on the MPCA's web-site.

a. Infiltration systems should not be excavated to final grade until the contributing drainage area has been constructed and fully **stabilized**.

b. During construction of an infiltration system, rigorous sediment and erosion controls (e.g., diversion berms) should be used to keep sediment and runoff completely away from the infiltration area. The area must be staked off and marked so that heavy construction equipment will not compact the soil in the proposed infiltration area.

c. To prevent clogging of the infiltration or filtration system, a pretreatment device such as a vegetated filter strip, small sedimentation basin, or water quality inlet (e.g., grit chamber) must be used to settle particulates before the **storm water** discharges into the infiltration or filtration system.

d. Infiltration or filtration systems shall be sufficient to infiltrate or filter a **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project.

e. The **water quality volume** shall discharge through the soil or filter media in 48 hours or less. Additional flows that cannot be infiltrated or filtered in 48 hours should be routed to bypass the system through a **stabilized** discharge point. A way to visually verify that the system is operating as designed must be provided.

f. Appropriate on-site testing shall be conducted to ensure a minimum of 3 feet of separation from the seasonally **saturated soils** (or from bedrock) and the bottom of the proposed infiltration system. Calculations and computer model results that demonstrate the design adequacy of the infiltration system must be included as part of the **SWPPP**.

g. Adequate maintenance access must be provided (typically 8 ft. wide) along with a maintenance plan identifying whom will be performing future maintenance of the infiltration or filtration system.

h. Use of designed infiltration systems from industrial areas with exposed significant materials or from vehicle fueling and maintenance areas is prohibited.

3. Regional Ponds

Regional ponds can be used provided that they are constructed ponds, not a natural **wetland** or waterbody, (**wetlands** used as regional ponds must be mitigated for, see Appendix A) and designed in accordance with this permit's design requirements (see Part III.C.1) for all water from **impervious surfaces** that reach the pond. **Permittees** shall not construct regional ponds in **wetlands**, regardless of their condition, quality or designation by local plans, unless the mitigative sequence in Appendix A. D.2 of this permit has been completed. There must be no significant degradation of the waterways between the project and the regional pond. The **owner** must obtain written authorization from the applicable local governmental unit (LGU) or private entity that owns and maintains the regional pond. The LGU's or private entity's written

authorization must identify that the regional pond will discharge the **water quality volume** (½ inch of runoff from the impervious watershed area) at no more than 5.66 cfs per acre of surface area of the pond. The **owner** must include the LGU's or private entity's written authorization in the **SWPPP**. The LGU's or private entity's written authorization must be obtained before the **owner** finalizes the **SWPPP** and before any application for this permit is made to the MPCA.

4. Combination of Practices

A combination of practices, including those required by a LGU, which meet the requirements of Part III.C.1, 2 and 3 respectively, (i.e., wet sedimentation basins, infiltration/filtration, and regional ponds) may be used such that the **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project is accounted for in the **owner's** permanent **storm water** management system (e.g., ¼ inch infiltrated and ¼ inch treated through a wet sedimentation basin). If any combination of these practices is used, the **SWPPP** must contain documentation (e.g., LGU or private entity's authorization, infiltration computer model results or calculations, etc.) identifying the volume that each practice addresses.

5. Alternative Method

Where an alternative, innovative treatment system is proposed and demonstrated by calculation, design or other independent methods to achieve approximately 80% removal of total suspended solids on an annual average basis, the **Commissioner** will approve the method if the process outlined in Part II.B.3.c. is completed, and the following information is submitted:

a. All calculations, drainage areas, plans, and specifications for the proposed alternative method and a graphic representation of the area to be served by the method. These items must be included in the **SWPPP** and submitted to the MPCA at least 90 days prior to the proposed starting date of the **construction activity**.

b. A 2 year monitoring plan to sample runoff from the proposed method. The plan must include a discussion of the methods used to collect samples, location where samples will be taken (upstream and downstream of the proposed method), frequency of samples (minimum of six runoff events sampled), identify lab used to analyze the samples and quality assurance and quality control methods to be used. The plan must include a schedule for submitting the monitoring data annually.

c. A mitigation plan that addresses how the **water quality volume** will be treated in the event that the monitoring data shows the proposed alternative treatment method does not function as designed.

d. The alternative method must achieve approximately 80% removal of total suspended solids on an average annual basis for the conditions expected at the site. The design must also consider public safety, health and water quality concerns. Proprietary information on effectiveness will not be considered for alternative treatment method review and approval.

No **construction activity** on the project is covered under this permit until the applicant receives an alternative treatment approval letter from the MPCA as described in Part II.B.3.c.

D. <u>RECORD RETENTION</u>

The **SWPPP**,all changes to it, and inspections and maintenance records must be kept at the site during construction by the **Permittee** who has operational control of that portion of the site. The **SWPPP** can be kept in either the field office or in an on site vehicle.

All **owner(s)** must keep the **SWPPP**, along with the following additional records, on file for three years after submittal of the **NOT** as outlined in Part II.C. This does not include any records after submittal of the **NOT**.

1. Any other permits required for the project;

2. Records of all inspection and maintenance conducted during construction (see Part IV.E. Inspections and Maintenance);

3. All permanent operation and maintenance agreements that have been implemented, including all right of way, contracts, covenants and other binding requirements regarding perpetual maintenance; and

4. All required calculations for design of the temporary and permanent **storm water** management systems.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN

The **Permittee(s)** must implement the **SWPPP** and the requirements of this part. The **Best Management Practices (BMPs)** identified in the **SWPPP** and in this permit must be installed in an appropriate and functional manner.

B. EROSION PREVENTION PRACTICES

1. The **Permittee(s)** must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion, so that the inspection and maintenance requirements of Part IV.E. are complied with. The location of areas not to be disturbed must be delineated (e.g. with flags, stakes, signs, silt fence etc.) on the development site before work begins.

2. All exposed soil areas with a continuous positive slope within 200 lineal feet of a **surface water,** must have **temporary erosion protection** or **permanent cover** for the exposed soil areas year round, according to the following table of slopes and time frames:

Type of Slope	Time	(Maximum time an area can remain open when the area is not actively being worked.)
Steeper than 3:1	7 days	
10:1 to 3:1	14 days	
Flatter than 10:1	21 days	

These areas include constructed **storm water** management pond side slopes, and any exposed soil areas with a positive slope to a **storm water** conveyance system, such as a curb and gutter system, storm sewer inlet, temporary or permanent drainage ditch or other natural or man made systems that discharge to a **surface water**. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) are exempt from this requirement but must comply with Part IV.C.5.

3. The **normal wetted perimeter** of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be **stabilized** within 200 lineal feet from the property edge, or from the point of discharge to any **surface water.** Stabilization must be completed within 24 hours of connecting to a **surface water.**

4. Pipe outlets must be provided with temporary or permanent **energy dissipation** within 24 hours of connection to a **surface water**.

C. SEDIMENT CONTROL PRACTICES

1. **Sediment control** practices must minimize sediment from entering **surface waters**, including curb and gutter systems and storm sewer inlets.

   a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a treatment system (e.g., ditches with rock check dams) require **sediment control** practices only as appropriate for site conditions.

   b. If the down gradient treatment system is overloaded, additional upgradient **sediment control** practices must be installed to eliminate the overloading, and the **SWPPP** must be amended to identify these additional practices as required in Part III.A.4, a. through c.

   c. In order to maintain sheet flow and minimize rills and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 3:1 or steeper.

2. **Sediment control** practices must be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until **final stabilization** has been established in accordance with Part IV.G.

3. The timing of the installation of **sediment control** practices may be adjusted to accommodate short-term activities such as clearing or grubbing, or passage of vehicles. Any short-term activity must be completed as quickly as possible and the **sediment control** practices must be installed immediately after the activity is completed. However, **sediment control** practices must be installed before the next precipitation event even if the activity is not complete.

4. All storm drain inlets must be protected by appropriate **BMPs** during construction until all sources with potential for discharging to the inlet have been **stabilized**.

5. Temporary soil stockpiles must have silt fence or other effective **sediment controls**, and cannot be placed in **surface waters**, including **storm water** conveyances such as curb and gutter systems, or conduits and ditches**.**

6. Vehicle tracking of sediment from the construction site must be minimized by **BMPs** such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such **BMPs** are not adequate to prevent sediment from being tracked onto the street (see Part IV.E.4.d.).

7. The **Permittee** must install temporary sedimentation basins as required in Part III.B. of this permit.

D. DEWATERING AND BASIN DRAINING

1. **Dewatering** or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the **construction activity** that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. If the water cannot be discharged to a sedimentation basin prior to entering the **surface water**, it must be treated with the appropriate **BMPs**, such that the discharge does not adversely affect the receiving water or downstream landowners. The **Permittee(s)** must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting or other accepted **energy dissipation** measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

2. All water from **dewatering** or basin draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing significant adverse impact to the **wetland.**

E. INSPECTIONS AND MAINTENANCE

1. The **Permittee(s)** (either the **owner** or **operator**, whoever is identified in the **SWPPP**) must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.

2. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the **SWPPP** in accordance with Part III.D. Records of each inspection and maintenance activity shall include:

   a. Date and time of inspections;

   b. Name of person(s) conducting inspections;

   c. Findings of inspections, including recommendations for corrective actions;

   d. Corrective actions taken (including dates, times, and party completing maintenance activities);

   e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours; and

   f. Documentation of changes made to the **SWPPP** as required in Part III.A.4.

3. Where parts of the construction site have undergone **final stabilization**, but work remains on other parts of the site, inspections of the **stabilized** areas may be reduced to once per month. Where work has been suspended due to frozen ground conditions, the required inspections and maintenance must take place as soon as runoff occurs at the site or prior to resuming construction, whichever comes first.

4. All **erosion prevention** and **sediment control BMPs** must be inspected to ensure integrity and effectiveness. All nonfunctional **BMPs** must be repaired, replaced, or supplemented with functional **BMPs**. The **Permittee(s)** must investigate and comply with the following inspection and maintenance requirements:

   a. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.

b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access (see Part IV.D.).

c. **Surface waters**, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion. The **Permittee(s)** must remove all deltas and sediment deposited in **surface waters**, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The **Permittee** shall use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. The **Permittee** is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.

d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all off-site paved surfaces, within 24 hours of discovery, or if applicable, within a shorter time to comply with Part IV.C.6.

e. The **Permittee(s)** are responsible for the operation and maintenance of temporary and permanent water quality management **BMPs**, as well as all **erosion prevention** and **sediment control BMPs**, for the duration of the construction work at the site. The **Permittee(s)** are responsible until another **Permittee** has assumed control according to Part II.B.5 over all areas of the site that have not been finally **stabilized** or the site has undergone **final stabilization**, and a **NOT** has been submitted to the MPCA.

f. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing **construction activities** is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.

F. <u>POLLUTION PREVENTION MANAGEMENT MEASURES</u>

The **Permittee(s)** shall implement the following pollution prevention management measures on the site:

1. Solid Waste: Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.

2. Hazardous Materials: Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.

3. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

G. FINAL STABILIZATION

The **Permittee(s)** must ensure **final stabilization** of the site. The **Permittee(s)** must submit a **NOT** within 30 days after **final stabilization** is complete, or another **owner/operator** (**Permittee**) has assumed control according to Part II.B.5 over all areas of the site that have not undergone **final stabilization**. **Final stabilization** can be achieved in one of the following ways:

1. All soil disturbing activities at the site have been completed and all soils must be **stabilized** by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

   a. All drainage ditches, constructed to drain water from the site after construction is complete, must be **stabilized** to preclude erosion;

   b. All temporary synthetic, and structural **erosion prevention** and **sediment control BMPs** (such as silt fence) must be removed as part of the site **final stabilization;** and

   c. The **Permittee(s)** must clean out all sediment from conveyances and from temporary sedimentation basins that are to be used as permanent water quality management basins. Sediment must be **stabilized** to prevent it from being washed back into the basin, conveyances or drainageways discharging off-site or to **surface waters**. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

2. For residential construction only, **final stabilization** has been achieved when **temporary erosion protection** and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the **Permittee** must distribute the MPCA **"homeowner factsheet"** to the homeowner to inform the homeowner of the need for, and benefits of, **final stabilization**.

PART V. GENERAL PROVISIONS

A. APPLICABILITY CRITERIA

1. If the **Commissioner** determines that **storm water** discharges associated with a **construction activity** are contributing to a violation of a water quality standard or would be more appropriately regulated by an individual permit, the **Commissioner** may require the **owner** to be covered by an individual **storm water** discharge permit. The **Commissioner** may require the **owner** to develop and implement specific **BMPs** and monitor the discharge from the site. If applicable, upon issuance of an individual permit, this general permit would no longer apply.

2. If the terms and conditions of this general permit cannot be met, an **owner** may request an individual permit, in accordance with Minn. R. 7001.

B. RESPONSE

The **SWPPP**, including all certificates, reports, records, or other information required by this permit, must be made available to federal, state, and local officials within 72 hours upon request for the

duration of the permit and for three years following the **NOT**. This does not include any records after submittal of the **NOT**.

C. PROHIBITIONS

This permit prohibits discharges of any material other than **storm water,** and discharges from **dewatering** or basin draining activities in accordance with Part IV.D.1 and 2. For example, prohibited discharges include but are not limited to vehicle and equipment washing, maintenance spills, wash water, and discharges of oil and other hazardous substances.

D. TRANSFER OF OWNERSHIP OR CONTROL

This permit may not be assigned or transferred by the permit holder except when transfer occurs in accordance with the applicable requirements of Part II.B.5.

E. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit must be construed to relieve the **Permittee(s)** from civil or criminal penalties for noncompliance with the terms and conditions provided herein. Nothing in this permit must be construed to preclude the initiation of any legal action or relieve the **Permittee(s)** from any responsibilities, liabilities, or penalties to which the **Permittee(s)** is or may be subject to under Section 311 of the Act and Minn. Stat. chs. 115 and 116, as amended. The **Permittee(s)** are not liable for permit requirements for activities occurring on those portions of a site where another party has submitted a subdivision short form registration as described in Part II. B.5 or a **NOT** has been issued by the MPCA except for responsibilities listed under Part III.C.5 if applicable.

F. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit must not be affected thereby.

G. NPDES/SDS RULE STANDARD CONDITIONS

The **Permittee(s)** must comply with the provisions of Minn. R. 7001.0150, subp. 3 and 7001.1090, subp. 1.A,B,C,H,I. This permit does not require the submittal of a data monitoring report, except where monitoring is required in Part III.C.5.

H. INSPECTION AND ENTRY

The **Permittee(s)** must comply with the provisions of 40 CFR 122.41(i), Minn. Stat. Ch. 115.04 and Minn. Stat. Ch. 115B.17. The **Permittee(s)** shall allow representatives of the MPCA or any member, employee or agent thereof, when authorized by it, upon presentation of credentials, to enter upon any property, public or private, for the purpose of obtaining information or examination of records or conducting surveys or investigations.

APPENDIX A

A. GENERAL REQUIREMENTS

All requirements in this Appendix are in addition to **BMPs** already specified in the permit. Where provisions of Appendix A conflict with requirements elsewhere in the permit, the provisions in

Appendix A take precedence. All **BMPs** used to comply with this Appendix must be documented in the **SWPPP** for the project. If the terms and conditions of this Appendix cannot be met, an individual permit will be required in accordance with Minn. R. ch. 7001.

B. REQUIREMENTS FOR DISCHARGES TO SPECIAL WATERS

Additional **BMPs** together with enhanced runoff controls**,** are required for discharges to the following special waters (part B.1 through B.8 of Appendix A). The **BMPs** identified for each special water are required for those areas of the project draining to a discharge point on the project that is within 2000 feet of a special water and flows to that special water.

1. **Wilderness areas:** Boundary Waters Canoe Area Wilderness; Voyageurs National Park; Kettle River from the site of the former dam at Sandstone to its confluence with the Saint Croix River; Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this appendix.

2. **Mississippi River:** Those portions from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this appendix.

3. **Scenic or recreational river segments:** Saint Croix river, entire length; Cannon River from northern city limits of Faribault to its confluence with the Mississippi River; North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line; Kettle River from north Pine County line to the site of the former dam at Sandstone; Minnesota River from Lac qui Parle dam to Redwood County state aid highway 11; Mississippi River from county state aid highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; and Rum River from state aid Highway 27 bridge in Onamia to Madison and Rice streets in Anoka. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this appendix.

4. **Lake Superior:** (prohibited and restricted) Discharges to Lake Superior must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this appendix.

5. **Lake Trout Lakes:** Identified in Minn. R. 7050.0470, including those inside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this appendix.

6. **Trout Lakes:** identified in Minn. R. 6264.0050, subp. 2. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3, and C.4 of this appendix.

7. **Scientific and natural areas:** Boot Lake, Anoka County; Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County; Pennington Bog, Beltrami County; Purvis Lake-Ober Foundation, Saint Louis County; Waters within the borders of Itasca Wilderness Sanctuary, Clearwater County; Iron Springs Bog, Clearwater County; Wolsfeld Woods, Hennepin County; Green Water Lake, Becker County; Blackdog Preserve, Dakota County; Prairie Bush Clover, Jackson County; Black Lake Bog, Pine County; Pembina Trail Preserve, Polk County; and Falls Creek, Washington County. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this appendix.

8. **Trout Streams:** listed in Minn. R. 6264.0050, subp. 4. Discharges to these waters must incorporate the **BMPs** outlined in Appendix A C.1, C.2, C.3, and C.5 of this appendix.

C. ADDITIONAL BMPS FOR SPECIAL WATERS

For the BMPs described in C.2, C.4 and C.5 of this Appendix:

Where the proximity to bedrock precludes the installation of any of the permanent **storm water** management practices outlined in Appendix A, other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to **surface waters**.

For work on road projects where the lack of right of way precludes the installation of any of the permanent **storm water** management practices outlined in Appendix A, other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to **surface waters**.

1. During construction.

   a. All exposed soil areas with a slope of 3:1 or steeper, that have a continuous positive slope to a special water must have **temporary erosion protection** or **permanent cover** within 3 days after the area is no longer actively being worked. All other slopes that have a continuous positive slope to a special water must have **temporary erosion protection** or **permanent cover** within 7 days after the area is no longer actively being worked.

   b. Temporary sediment basin requirements described in Part III.B.1-5 must be used for common drainage locations that serve an area with five (5) or more acres disturbed at one time.

2. Post construction. The **water quality volume** that must be treated by the project's permanent **storm water** management system described in Part III.C. shall be one (1) inch of runoff from the new **impervious surfaces** created by the project.

3. Buffer zone. An undisturbed buffer zone of not less than 100 linear feet from the special water (not including tributaries) shall be maintained at all times. Exceptions from this requirement for areas, such as water crossings or limited water access, are allowed if the **Permittee** fully documents in the **SWPPP** the circumstances and reasons that the buffer encroachment is necessary. All potential water quality, scenic and other environmental impacts of these exceptions must be minimized and documented in the **SWPPP** for the project.

4. Enhanced runoff controls. The permanent **storm water** management system must be designed such that the pre and post project runoff rate and volume from the 1, and 2-year 24-hour precipitation events remains the same.

5. Temperature Controls. The permanent **storm water** management system must be designed such that the discharge from the project will minimize any increase in the temperature of trout stream receiving waters resulting from the 1, and 2-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the section that the trout stream is located. Projects that discharge to trout streams must minimize the impact using one or more of the following measures, in order of preference:

   a. Minimize new **impervious surfaces**.
   b. Minimize the discharge from connected **impervious surfaces** by discharging to vegetated areas, or grass swales, and through the use of other non-structural controls.
   c. Infiltration or evapotranspiration of runoff in excess of pre-project conditions (up to the 2-year 24-hour precipitation event).

d. If ponding is used, the design must include an appropriate combination of measures such as shading, filtered bottom withdrawal, vegetated swale discharges or constructed **wetland** treatment cells that will limit temperature increases. The pond should be designed to draw down in 24 hours or less.
e. Other methods that will minimize any increase in the temperature of the trout stream.

D. REQUIREMENTS FOR DISCHARGING TO WETLANDS

If the project has any **storm water** discharges with the potential for significant adverse impacts to a **wetland** (e.g., conversion of a natural **wetland** to a **storm water** pond) , the **Permittee(s)** must demonstrate that the **wetland** mitigative sequence has been followed in accordance with D.1 or D.2 of this appendix.

1. If the potential adverse impacts to a **wetland** on a specific project site have been addressed by permits or other approvals from an official statewide program (U.S. Army Corps of Engineers 404 program, Minnesota Department of Natural Resources, or the State of Minnesota Wetland Conservation Act) that are issued specifically for the project and project site, the **Permittee** may use the permit or other determination issued by these agencies to show that the potential adverse impacts have been addressed. For the purposes of this permit, deminimus actions are determinations by the permitting agency that address the project impacts, whereas a non-jurisdictional determination does not address project impacts.

2. If there are impacts from the project that are not addressed in one of the permits or other determinations discussed in Appendix A, Part D.1 (e.g., permanent inundation or flooding of the **wetland**, significant degradation of water quality, excavation, filling, draining), the **Permittee** must minimize all adverse impacts to **wetlands** by utilizing appropriate measures. Measures used must be based on the nature of the **wetland**, its vegetative community types and the established hydrology. These measures include in order of preference:

   a. Avoid all significant adverse impacts to **wetlands** from the project and post project discharge.

   b. Minimize any unavoidable impacts from the project and post project discharge.

   c. Provide compensatory mitigation when the **Permittee** determines that there is no reasonable and practicable alternative to having a significant adverse impact on a **wetland**. For compensatory mitigation, wetland restoration or creation shall be of the same type, size and whenever reasonable and practicable in the same watershed as the impacted wetland.

E. DISCHARGES REQUIRING ENVIRONMENTAL REVIEW

This permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act (MEPA) or the National Environmental Policy Act (NEPA). The **owner** must complete any environmental review required by law, including any required Environmental Assessment Work Sheets or Environmental Impact Statements, Federal environmental review, or other required review.

F. DISCHARGES AFFECTING ENDANGERED OR THREATENED SPECIES

This permit does not replace or satisfy any review requirements for Endangered or Threatened species, from new or **expanded discharges** that adversely impact or contribute to adverse impacts on a listed endangered or threatened species or adversely modify a designated critical habitat. The

owner must conduct any required review and coordinate with appropriate agencies for any project with the potential of affecting threatened or endangered species, or their critical habitat.

G. DISCHARGES AFFECTING HISTORIC PLACES OR ARCHEOLOGICAL SITES

This permit does not replace or satisfy any review requirements for Historic Places or Archeological Sites, from new or **expanded discharges** which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered Archeological Sites. The **owner** must be in compliance with National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Minnesota Historic Preservation Officer.

APPENDIX B. DEFINITIONS

1. "**Best Management Practices (BMPs)**" means erosion and **sediment control** and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing degradation of **surface water**, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies.

   Individual **BMPs** found in this permit are described in the current version of **Protecting Water Quality in Urban Areas**, Minnesota Pollution Control Agency 2000. **BMPs** must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as MPCA's **BMPs**. (Other sources include manufacturers specifications, **Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices**, U.S. Environmental Protection Agency 1992, and **Erosion Control Design Manual**, Minnesota Department of Transportation, et al, 1993).

2. **"Commissioner"** means the **Commissioner** of the Minnesota Pollution Control Agency or the **Commissioner's** designee.

3. **"Common Plan of Development or Sale"** means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

4. "**Construction Activity**" For this permit, **construction activity** includes **construction activity** as defined in 40 C.F.R. part 122.26(b)(14)(x) and **small construction activity** as defined in 40 C.F.R. part 122.26(b)(15). This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated **storm water** runoff, leading to soil erosion and movement of sediment into **surface waters** or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. **Construction activity** includes the disturbance of less than one acre of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb one (1) acre or more.

5. **"Dewatering**" means the removal of water for **construction activity**. It can be a discharge of appropriated surface or groundwater to dry and/or solidify a construction site. It may require Minnesota Department of Natural Resources permits to be appropriated and if contaminated may require other MPCA permits to be discharged.

6. "**Energy Dissipation**" means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

7. **"Erosion Prevention"** means measures employed to prevent erosion including but not limited to: soil stabilization practices, limited grading, mulch, temporary or **permanent cover**, and construction phasing.

8. "**Final Stabilization**" means that either:
   a. All soil disturbing activities at the site have been completed and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed;

   b. For individual lots in residential construction by either: (a) The homebuilder completing **final stabilization** as specified above, or (b) the homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, **final stabilization**. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to **final stabilization** as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

   c. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) **final stabilization** may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to **surface waters** and drainage systems, and areas which are not being returned to their preconstruction agricultural use must meet the **final stabilization** criteria in (a) or (b) above.

9. "**General Contractor**" means the party who signs the construction contract with the **owner** to construct the project described in the final plans and specifications. Where the construction project involves more than one contractor, the **general contractor** will be the party responsible for managing the project on behalf of the **owner**. In some cases, the **owner** may be the **general contractor**. In these cases, the **owner** may contract an individual as the **operator** who would become the Co-Permittee.

10. "**Homeowner Factsheet"** means a fact sheet developed by the MPCA to be given to homeowners at the time of sale by a builder to inform the homeowner of the need for, and benefits of, **final stabilization**.

11. "**Impervious Surface**" means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

12. "**National Pollutant Discharge Elimination System (NPDES)**" means the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345..

13. "**Normal Wetted Perimeter**" means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

14. "**Notice of Termination**" means notice to terminate coverage under this permit after construction is complete, the site has undergone **final stabilization**, and maintenance agreements for all permanent facilities have been established, in accordance with all applicable conditions of this permit. **Notice of Termination** forms are available from the MPCA.

15. **"Operator"** means the person (usually the **general contractor**), designated by the **owner**, who has day to day operational control and/or the ability to modify project plans and specifications related to the **SWPPP**. The person must be knowledgeable in those areas of the permit for which the **operator** is responsible, (Part II.B. and Part IV.) and must perform those responsibilities in a workmanlike manner.

16. "**Owner**" means the person or party possessing the title of the land on which the construction activities will occur; or if the **construction activity** is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the **construction activity**.

17. "**Permanent Cover**" means **final stabilization**. Examples include grass, gravel, asphalt, and concrete.

18. "**Permittee**" means a person or persons, firm, or governmental agency or other institution that signs the application submitted to the MPCA and is responsible for compliance with the terms and conditions of this permit.

19. **"Saturated Soil"** means the highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. **Saturated soil** is evidenced by the presence of redoximorphic features or other information.

20. "**Sediment Control**" means methods employed to prevent sediment from leaving the site. **Sediment control** practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

21. "**Small Construction Activity**" means small construction activity as defined in 40 C.F.R. part 122.26(b)(15) . Small construction activities include clearing, grading and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. **Small construction activity** includes the disturbance of less than one (1) acre of total land area that is part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres.

22. "**Stabilized**" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, wood fiber blanket, or other material that prevents erosion from occurring. Grass seeding is not stabilization.

23. "**Standard Plates**" means general drawings having or showing similar characteristics or qualities that are representative of a construction practice or activity.

24. "**Storm water**" is defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, **storm water** runoff, snow melt runoff, and any other surface runoff and drainage.

25. **"Storm Water Pollution Prevention Plan"** means a plan for **storm water** discharge that includes **erosion prevention** measures and **sediment controls** that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.

26. **"Surface Water or Waters"** means all streams, lakes, ponds, marshes, **wetlands**, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private.

27. "**Temporary Erosion Protection**" means methods employed to prevent erosion. Examples of temporary cover include; straw, wood fiber blanket, wood chips, and erosion netting.

28. "**Underground Waters**" means water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term ground water shall be synonymous with underground water.

29. **"Waters of the State"** (as defined in Minn. Stat. § 115.01, subd. 22) means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

30. **"Water Quality Volume"** means ½ inch of runoff from the new **impervious surfaces** created by this project and is the volume of water to be treated in the permanent **storm water** management system, as required by this permit except as provided in Appendix A.C.2.

31. **"Wetland" or "Wetlands**" is defined in Minn. R. 7050.0130, subp. F and includes those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in **saturated soil** conditions. **Wetlands** generally include swamps, marshes, bogs, and similar areas. Constructed **wetlands** designed for wastewater treatment are not **waters of the state**. **Wetlands** must have the following attributes:

    a. A predominance of hydric soils;

    b. Inundated or saturated by **surface water** or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a **saturated soil** condition; and

    c. Under normal circumstances support a prevalence of such vegetation.

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SECTION 01566

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PART 1 GENERAL

1.1 GENERAL

This section covers best management practices to be implemented for prevention of storm water pollution as required by the National Pollutant Discharge Elimination System (NPDES). The North Dakota Department of Health is responsible for administering permits for NPDES in the state of North Dakota. The Government has determined that the project work included under this contract requires NPDES permitting. The requirements herein supplement those covered in Section 01355 ENVIRONMENTAL PROTECTION.

1.1.1 Definitions

The following terms apply to this specification and the general permit, unless redefined in subsequent paragraphs.

a. "EPA" means the United States Environmental Protection Agency.
b. "NPDES" means the National Pollutant Discharge Elimination System.
c. "BMP" means Best Management Practices.
d. "General Permit" means the general permit authorization to discharge storm water associated with a construction activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program.
e. "Owner" as referred to in the general permit shall mean the Federal Government.
f. "NDPDES" means the North Dakota Pollutant Discharge Elimination System.
i. "Notice of Intent (NOI)" means the application to be filed with the state to receive a general permit for storm water discharges associated with a construction activity.

1.1.2 Contract Drawings

The following features are shown on or can be determined from the contract drawings:

a. The drainage patterns and approximate slopes anticipated after the major grading activities.
b. Areas of soil disturbance.
c. The location(s) where stabilization practices are expected to occur.
d. Typical details showing suggested Best Management Practices (BMP's) for erosion and sediment control.
e. Waters of the State.
f. Final site stabilization.

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 D 6461	(1999) Silt Fence Materials
ASTM D 6462	(1999) Silt Fence Installation

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA/832/R-92/005	Storm Water Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

NDDOT 856	Standard Specifications for Road and Bridge Construction (1997 Edition), Erosion Control Blankets

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

Notice of Intent (NOI);

A copy of the NOI (ND Form SFN 19145) shall be submitted to the Contracting Officer at the same time it is transmitted to the state.

SD-02 Shop Drawings

Temporary Erosion And Sediment Control Plan;

A specific Temporary Erosion and Sediment Control Plan shall be submitted in accordance with PARAGRAPH: PERMIT COMPLIANCE AND ADDITIONAL REQUIREMENTS.

1.4 PERMIT COMPLIANCE AND ADDITIONAL REQUIREMENTS

The Contractor shall comply with the requirements of General Permit No. NDR03-0000. The following define additional requirements and clarify which requirements of the General Permit are to be performed by either the Contractor, the Government, or both.

1.4.1 Schedule

No contract project construction activities which require an NPDES permit may commence until the state's general permit is valid.

1.4.2 Storm Water Pollution Prevention (SWPP) Plan

The contract drawings show typical details of suggested best management practices (BMP's) for erosion and sediment control taken from EPA/832/R-92/005. The BMP's, together with applicable portions of the site drawings and specifications form an initial plan for temporary erosion and sediment control. The Contractor shall finalize and implement the plan. The finalized plan, together with documentation, shall be in accordance with the general permit. The plan shall be maintained at the site and made available to federal, state, and local officials as requested. The Contractor shall determine the specific BMP's for erosion and sediment control (including the types, locations, and installation scheduling of erosion and sediment controls). These BMP's and corresponding material specifications and shop drawings shall be included in the Plan.

1.4.3 Notice of Intent (NOI)

The NOI shall be signed by the Contractor. A blank copy of the Application form is included at the end of this section. Immediately after contract award, the Contractor shall prepare the SWPP plan, complete the Notice of Intent, and submit the form with the SWPP plan to the state. The NOI shall be submitted to the State 30 days in advance of ground breaking activities. The Contractor is responsible for payment of the application fee.

1.5 MEASUREMENT AND PAYMENT

The contactor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

PART 2 PRODUCTS

2.1 SILT FENCE

Silt fence shall be manufactured and installed as shown on drawings. On level sites with minimal potential for sediment loading, the wire fabric may be omitted. Silt fence shall conform to ASTM D 6461 and shall be installed in accordance with ASTM D 6462.

2.2 STRAW BALES

Straw shall be baled from oats, wheat, rye, barley, rice, or other coarse fiber vegetation that will percolate water. Hay baled from grass, alfalfa and clover is not acceptable.

2.3 OTHER PRODUCTS

Any products proposed for use that are not included on drawing Z2-22 shall be described fully, with catalog cuts and manufacturer's instructions for use, in the temporary erosion and sediment control plan. Other products, if proposed in the final plan, shall meet the following requirements:

Erosion control blankets shall meet NDDOT 856

PART 3 EXECUTION

As between the Government and the Contractor, the Contractor shall be

responsible for fulfilling the obligations of the general permit.

3.1 IMPLEMENTATION

The Contractor shall install the sediment and erosion control system in accordance with the plan submitted to the Contracting Officer. The BMP's shall be modified if inspection indicates distress to the system or reveals unforeseen circumstances, or if directed by the Contracting Officer. Any updates to the plan shall be recorded. Permanent stabilization shall be initiated as soon as practicable in any portion of the site where construction activities are complete.

3.2 MAINTENANCE

The Contractor shall be responsible for implementing and managing the erosion and sediment control BMP's before and during the construction activities; and ensure that the Plan will be implemented and stay in effect until the work has been completed, the entire work site has undergone final stabilization, and a Notice of Termination has been submitted to the Contracting Officer and the state permitting authority.

3.3 RECORDS

The contractor shall record on CQC reports: (1) dates when major stripping and grading activities occur, (2) dates when construction activities temporarily or permanently cease on a portion of the site, (3) when permanent stabilization practices are initiated, and (4) activities associated with inspection and maintenance.

3.4 ATTACHMENTS

NORTH DAKOTA DEPARTMENT OF HEALTH NDPDES PROGRAM, Construction Storm Water Pollution Prevention Plan Guidance Forms 8 Pages

NOTICE OF INTENT TO OBTAIN COVERAGE UNDER NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY, NORTH DAKOTA DEPARTMENT OF HEALTH (SFN 19145) 1 Page

NDPDES General Permit No. NDR03-0000 19 Pages

-- End of Section --

NORTH DAKOTA DEPARTMENT OF HEALTH
NDPDES PROGRAM

Construction
Storm Water Pollution Prevention Plan
Guidance Forms

CONTENTS

1. PROJECT DESCRIPTION (SF 19388)
2. SITE MAP DEVELOPMENT
3. VEGETATIVE/STRUCTURAL PRACTICES (SF 19389)
4. OTHER BEST MANAGEMENT PRACTICES (SF 19390 and SF 19390-2)
5. SIGNIFICANT MATERIALS (SF 19387)
6. SIGNATORY CERTIFICATION (SF 19137)

PROJECT DESCRIPTION
North Dakota Department of Health
Division of Water Quality

SFN 19388 (11/02)

Clear All Form Fields

Project Name	
Project Type	
Project Location	
Estimate of Project Size	

Description of the Nature of Activity

Description of Existing Soils, Fill Material, and Erodibility of Such Soils

Proposed Timetable for Construction Activities

Name of Receiving Waters

SITE MAP DEVELOPMENT

The site map should be suitably scaled and drawn to show the following required information:

MAP FEATURES

1) Construction site boundaries and area(s) of soil disturbance.

2) The location of springs, streams, wetlands, and other surface waters.

3) The location of areas used for storage of building materials, soils, or waste materials.

4) The locations of proposed and existing stormwater controls.

5) Stormwater runoff/run on drainage patterns.

6) Section, township, range, or lines of latitude and longitude.

BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19389 (09/99)

Clear All Form Fields

STRUCTURAL PRACTICES:

- ○ Terraces/Contours
- ○ Pipe Slope Drains
- ○ Straw Bale Dikes
- ○ Silt Fences
- ○ Infiltration Trenches or Basins
- ○ Earth Dikes
- ○ Rock Outlet Protection
- ○ Check Dams
- ○ Drain Inlet Protection
- ○ Brush Barriers
- ○ Temporary Drain Diversion
- ○ Drainage Swales
- ○ Sediment Traps
- ○ Temporary Sediment Basins
- ○ Subsurface Drains
- ○ Retaining Walls

Clear Selections

Additional Practices:

NONSTRUCTURAL PRACTICES:

- ○ Temporary Seeding
- ○ Mulching
- ○ Filter Strips
- ○ Erosion Blankets
- ○ Permanent Seeding
- ○ Grassed Waterways
- ○ Tree Planting
- ○ Sod Stabilization

Clear Selections

Additional Practices:

OTHER BEST MANAGEMENT PRACTICES
Spill Prevention methods, post construction controls and site inspections/maintenance
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19390-2 (11/02)

Clear All Form Fields

Description of Spill Prevention and Response Procedures:

Description of Post Construction Controls:

Description of Procedures for Site Inspections and Maintenance

OTHER BEST MANAGEMENT PRACTICES
Description of sediment tracking reduction and sediment recovery methods
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19390 (11/02)

Clear All Form Fields

Description of Methods to Reduce Sediment Tracking:

Description of Methods for Recovering Sediments:

Description of Methods for Handling and Disposing of Contaminated Soils:

SIGNIFICANT MATERIALS
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY

SFN 19387 (11/02)

Clear All Form Fields

INSTRUCTIONS: Based on your site's material inventory, provide the following information. For the definition of "significant materials," see Part VI of the permit. The **location** of the significant materials should be indicated on the site map.

MATERIAL	QTY KEPT ONSITE	STORAGE METHOD	DISPOSAL METHOD	PROCESSED ONSITE?	POLLUTION PREVENTION MEASURES
ex. Diesel Fuel	ex. 500 gallons	ex. Berm surrounding tank	ex. Using ND DoH Waste Management Guidelines	ex. NO	ex. Berm constructed around tank to capture any spills or leaks. Employees have been trained to prevent spills during fueling process and to contact management if a spill occurs.
				No	
				No	
				No	
				No	
				No	
				No	
				No	

01566-Attachment

SIGNATORY CERTIFICATION
North Dakota Department of Health
Division of Water Quality
SFN 19137 (11/02)

For Department Use Only

Permit Number:

INSTRUCTIONS: The following statement shall be signed by a responsible corporate officer, general partner, principle executive officer or ranking elected official. The statement may be signed by a duly authorized representative of the person above in accordance with Part IV-E of the permit.

CERTIFICATION

"I _____, certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Printed Name of Applicant		Title	
Signature of Applicant		Date	

01566-Attachment

ADDITIONAL SIGNATURES

INSTRUCTIONS: If more than one signature is required on the Stormwater Pollution Prevention Plan, use the space provided.

Date	Printed Name	Signature	Title	Company Name

NOTICE OF INTENT TO OBTAIN COVERAGE UNDER NDPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19145 (11/02)

Clear Entire Form

FOR DEPT. USE ONLY

Application No.

Date Received

GENERAL INFORMATION

Name of Owner or Operator of Construction Project Seeking Authorization to Discharge	Contact Person/Contact Phone No.	Business Phone No.	
Mailing Address	City	State	Zip Code

Type of Owner or Operator: ☐ Developer/Builder ☐ General Contractor ☐ Municipality ☐ State of ND ☐ Federal ☐ Other (Specify):

This NOI is to obtain coverage under Small Construction Activity (see Part I.C of permit): ☐ YES ☐ NO

Clear Buttons

There are special reporting requirements for Small Construction Activity in Part III.D of permit

Name of Construction Project (Large Construction Activity only - see Part I.D of permit)

Brief Description of Construction Activity (Please fill out for **both** Small and Large Construction Activity)

LARGE CONSTRUCTION ACTIVITY INFORMATION

Names of Contractors Working at Site (if known)

1)

2)

3)

Project Start Date:

Estimated Completion Date:

Estimated Area of Total Disturbance in Acres

Facility Location						
	Street			City		
	OR	1/4 1/4	Section	Township	Range	County
	OR	Latitude o I II		Longitude o I II		County

Receiving Waters			
	☐ Natural Surface Drainage		Name or Description of Receiving Waters
	OR	☐ Municipal Storm Sewer	Name of City

Clear Buttons Above

SIGNATURE INFORMATION

RETURN COMPLETED APPLICATION TO:

North Dakota Department of Health
Division of Water Quality
1200 Missouri Ave., Rm. 203
PO Box 5520
Bismarck, ND 58506-5520

Telephone: 701-328-5210

I certify I am familiar with NDCC 61-28-08, and with the information contained in this application. To the best of my knowledge and belief, the information in this application is true, complete, and accurate.

Printed Name of Applicant(s)	Title
Signature of Applicant(s)	Application Date

(Attach additional pages if needed)

Permit No.: NDR03-0000

Effective Date: October 1, 1999

Mod. Effective Date: March 10, 2003

Expiration Date: September 30, 2004

AUTHORIZATION TO DISCHARGE UNDER THE

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

facilities both qualifying for and satisfying the requirements identified in Part I of this permit

are authorized to discharge storm water associated with **CONSTRUCTION ACTIVITY**

to waters of the state

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I-VI, hereof.

This permit and the authorization to discharge shall expire at midnight,

September 30, 2004.

_____
Dennis R. Fewless, Director
Division of Water Quality

_____
Date

PART I - PERMIT COVERAGE

A. Permit Area

This permit applies to all areas within the jurisdiction of the state of North Dakota

B. Eligibility and Limitations

1. Storm Water Discharges Covered by this Permit

This permit applies to all new and existing discharges of storm water from construction activity involving land disturbance of equal to or greater than one acre. This includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one acre. Construction activity involves any of the following:

a. Construction activity including: clearing, grading, and excavation activities.
b. Examples of eligible construction projects include but are not limited to: road building/rebuilding, site development, housing subdivision development, utility trenching, etc.
c. Areas that are dedicated to producing earthen materials (such as soils, sand and gravel) for use at a construction site(s) as approved by the Department.

2. Storm Water Discharges *Not* Covered by this Permit

The following are not provided coverage under this permit:

a. Storm water discharges associated with industrial activity from any source other than construction activities of those approved operations as in Part I.B.1.b.
b. Storm water discharges associated with mining activities.
c. Storm water discharges associated with industrial activity from discharge points subject to existing effluent limitations guidelines.
d. Storm water discharges that the Department has shown to be contributing to a violation of a water quality standard.

C. Small Construction Activity Coverage

Small construction activity involves land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.

1. Notice of Intent (NOI)

An operator must submit one single NOI form to the Department to obtain coverage for storm water discharges from all of their small construction sites. An operator is the individual who has day to day supervision and control of activities occurring at the construction sites. This can be the owner, developer, the general contractor or, in some circumstances, the agent of one of these parties.

2. Contents of the NOI

The NOI for small construction activity shall contain, at a minimum, the following information:

a. Name and mailing address of the owner or operator.
b. Contact name and phone number.
c. A brief description of the construction activity type.
d. The signature of the applicant(s), signed in accordance with Part IV.E of this permit.

3. Deadlines

The NOI for small construction activity shall be submitted to the Department prior to the start of construction.

4. Submittal

Completed NOIs shall be submitted, by mail or hand delivery, to:

North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58506-5520

Operators of small construction activity shall submit an Annual Location Record (see Part III.D) to the Department by January 31.

D. Large Construction Activity Coverage

Large construction activity involves land disturbance of equal to or greater than 5 acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than five acres.

1. Notice of Intent (NOI)

The operator of large construction activity shall submit an NOI and Storm Water Pollution Prevention (SWPP) Plan (see Part II.C.3) to obtain coverage for storm water discharges for each construction project. An operator is the individual who has day to day supervision and control of activities occurring at the construction site. This can be the owner, developer, the general contractor or, in some circumstances, the agent of one of these parties.

2. Contents of the NOI

The NOI for large construction activity shall contain, at a minimum, the following information:

a. Name and mailing address of the owner or operator.
b. Contact name and phone number.

c. The type of owner or operator of the construction site (federal, state, private, or other entity).
d. Name of construction project
e. A brief description of the construction activity.
f. List of contractors/subcontractors working at the site (if known).
g. Construction project's SIC code.
h. The anticipated starting date and the anticipated date of completion for the project.
i. The estimated area of total disturbance in acres.
j. County and location of the construction site, including latitude and longitude or township, range, section, and 1/4 section.
k. Name of receiving water(s) or the name of the receiving municipal storm sewer system and receiving water(s).
l. The signature of the applicant(s), signed in accordance with Part IV.E of this permit.

3. Deadlines

The NOI and SWPP Plan for large construction activity shall be submitted to the Department 30 days prior to the start of construction.

4. Submittal

Completed **NOIs** and **SWPP Plans** (see Part II.C) shall be submitted, by mail or hand delivery, to:

North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58506-5520

E. Permit Certification

1. Automatic Coverage

If the applicant does not receive a request for additional information or a notification of denial from the Department within 10 days of receipt of the application by the Department, authorization to discharge in accordance with the conditions of this permit shall be deemed granted.

2. Request for Additional Information

The Department shall have the right to request additional data and/or deny the authorization for any particular discharge.

3. Individual or Alternative General Permits

a. The Department may, at any time and by written notification only, require any person authorized by this permit to apply for and obtain either an individual NDPDES permit or to seek coverage under an alternative NDPDES general permit.

b. Any person covered by this general permit may request to be excluded from such coverage by either applying for an individual NDPDES permit or filing a Notice of Intent to be covered under an alternative NDPDES general permit.

c. When an individual NDPDES permit is issued to a person otherwise subject to this permit or the person is approved for coverage under an alternative NDPDES general permit, the applicability of this permit to the individual permittee is automatically terminated upon the effective date of the individual permit or the date of approval for coverage under the alternative general permit.

d. When an individual NDPDES permit is denied to a person otherwise subject to this permit, or the person is denied for coverage under an alternative NDPDES general permit, the applicability of this permit remains in effect, unless otherwise specified by the Department.

4. Local Authority

This permit does not preempt or supersede the authority of local agencies to prohibit, restrict, or control discharges of storm water to storm sewer systems or other water courses within their jurisdiction.

F. Continuation of Coverage

Facilities covered under this permit can continue coverage under the renewed permit, provided a satisfactory request is made. Any request to retain coverage under a renewal of this permit shall be made in writing to the Department at least 15 days prior to the expiration date of this permit. If requested by the Department, a new NOI shall be submitted.

G. Transfer of Ownership or Control

1. Coverage under this permit may be transferred to a new permittee if the existing and new permittees notify the Department in writing, at least 48 hours before the transfer of ownership or control; and the notice includes a written agreement between the existing and new permittees containing a specific date of transfer or permit responsibility, coverage and liability between them. If requested by the Department, an NOT shall be submitted by the existing permittee and an NOI submitted by the new permittee.

2. The new owner or operator must comply with all regulations in this permit and with all provisions of the existing SWPP Plan until such time as the existing SWPP Plan is amended or replaced by a new SWPP Plan. If the personnel responsible for implementing the SWPP Plan change, these changes must be amended to the SWPP Plan within 30 days of transfer of ownership or control.

H. Notice of Termination (NOT)

1. Final Stabilization

Final stabilization is reached when all construction activities that are authorized by this permit have been completed, and uniform vegetative cover has been established with a

density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

2. Notice of Termination (NOT) for Small Construction Activity

Operators of small construction activity (see Part I.C) are not required to submit NOTs for their individual small construction sites, however, final stabilization is required on all sites. If an operator ceases all of its small construction activity and has submitted Annual Location Records (see Part III.D) that certify final stabilization has been completed on its small construction sites, an NOT must be submitted to end permit coverage for small construction activity.

3. Content of NOT for Small Construction Activity

a. Permit number.
b. Name and mailing address of the owner or operator.
c. Contact name and phone number.
d. Certification that all small construction activity has been finally stabilized.
e. Signature of the applicant(s), signed in accordance with Part IV.E of this permit.

4. Notice of Termination (NOT) for Large Construction Activity

When a site has been finally stabilized, an NOT shall be submitted to the Department.

5. Content of NOT for Large Construction Activity

The NOT shall contain, at a minimum, the following information:

a. Permit number.
b. Name of construction site.
c. Name and mailing address of the owner or operator.
d. Contact name and phone number.
e. County and location of the construction site, including latitude and longitude or township, range, section, and 1/4 section.
f. Certification that the site has been finally stabilized.
g. Signature of the applicant(s), signed in accordance with Part IV.E of this permit.

6. Submittal

Completed **NOTs** shall be submitted, by mail or hand delivery, to:

North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58506-5520

PART II - SPECIAL CONDITIONS

A. Prohibition of Non-Storm Water Discharges

All discharges covered by this permit shall be composed entirely of storm water. The discharge of materials other than storm water must be identified as a potential source of pollution in the SWPP Plan (Part II.C.3). Unless otherwise determined by the Department, discharges of other than storm water must be in compliance with an appropriate NDPDES permit issued for the discharge.

B. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302. Any release of a hazardous substance, including a release in a storm water discharge, must be reported to the agencies identified in Part IV.F. The discharge of hazardous substances in storm water discharges shall be minimized in accordance with the applicable SWPP Plan for the facility. Should a reportable quantity release occur, the SWPP Plan shall be revised to prevent the recurrence of such a release.

C. Storm Water Pollution Prevention Plans

All facilities covered by this permit shall prepare and implement a Storm Water Pollution Prevention (SWPP) Plan that is subject to Department approval. Guidance forms for preparing a SWPP Plan are located on the website **http://www.health.state.nd.us/wq/Storm/Construction/ConstructionHome.htm** or can be obtained from the Department. The main objective of the plan shall be to identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activity; and to describe Best Management Practices (BMPs) which will be used to reduce the pollutants in the storm water discharges associated with construction activity. The implementation of these objectives will be used to meet the terms and conditions of this permit.

1. Plan Preparation and Implementation Deadlines

   a. SWPP Plans for large construction activity (see Part I.D) shall be submitted with the NOI. It is not necessary for operators of small construction activity (see Part I.C) to submit their SWPP Plans to the Department, unless requested in writing by the Department.

      Implementation of the plan shall be at the start of construction. The SWPP Plan may be submitted and/or implemented at later dates only upon written request by the permittee showing just cause and subsequent written approval by the Department.

   b. SWPP Plans approved and implemented under the previous version of this permit shall remain in effect under this permit. Operations covered under an existing SWPP Plan shall amend the SWPP Plan as described in Part II.C.2.d of this permit.

c. If the permittee must also operate under an approved state or local sediment and erosion control plan, or any other storm water management plan, it will be the permittee's responsibility to ensure that the SWPP Plan for this permit complies with all other required plans. A SWPP Plan is not a substitute for a storm water management plan developed under other regulatory programs. It is acceptable for the plan to reflect the storm water management measures developed under other regulatory programs and to incorporate the applicable portions of such programs by reference.

d. The permittee shall amend the SWPP Plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the water of the state, or if the SWPP Plan proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity.

2. <u>SWPP Plan Contents</u>

Key elements for SWPP Plans shall include, at a minimum, the following information:

a. *Site Description*

A site description shall contain, at a minimum, the following information:

i) A description of the nature of the construction activity.
ii) The proposed timetable for major activities.
iii) Estimates of the total area of the site, and the area of the site that is expected to undergo clearing, excavation, or grading.
iv) A description of the fill material to be used, the existing soils at the site, and the erodibility of such soils.
v) The name of any receiving water(s) and the size, type and location of any outfall or; for discharges to a municipal separate storm sewer, the name of the municipal owner of the system, the location of the storm sewer discharge, and the name of the ultimate receiving waters.

b. *Site Map*

A site map that indicates, at a minimum, the following information:

i) Construction site boundaries and area of soil disturbance
ii) The location of springs, streams, wetlands, and other surface waters
iii) The location of areas used for storage of building materials, soils, or wastes.
iv) The locations of proposed and existing storm water controls
v) Storm water runoff drainage patterns
vi) Township, range, section or lines of latitude and longitude

c. *Significant Material Inventory*

The location and description of any potential pollution sources, such as vehicle fueling, fertilizers or chemicals, etc. Generally, significant materials are raw materials, finished products, and byproducts. The term also includes materials

necessary for an operation which have the potential to be released with storm water. The description should identify methods of storage, disposal, and outdoor processing involving significant materials.

d. *Best Management Practices (BMPs)*

The plan shall clearly describe the relationship between the phases of construction and the implementation and maintenance of BMPs. The description of BMPs shall include the following components:

i) Erosion and Sediment Controls

a) Nonstructural

A description of nonstructural practices designed to preserve existing vegetation where practicable and re-vegetate open areas as soon as practicable after construction activity ceases. In developing vegetative practices, the permittee shall consider: temporary and permanent seeding, mulching, sod stabilization, filter strips, grassed waterways, erosion blankets, geotextiles, preservation of mature vegetation and tree or shrub planting.

b) Structural

A description of structural practices which indicates how, to the degree practicable, the permittee will divert flows from exposed soil, store flows, or otherwise limit runoff from exposed areas of the site. In developing structural practices, the permittee shall consider the relevance of: straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drains, pipe slope drains, rock outlet protection, drain inlet and outlet protection, temporary drain diversion, sediment traps, temporary sediment basins, infiltration trenches or basins, and retaining walls.

ii) Other Controls

a) A description of methods to reduce the tracking of sediment onto public or private roads.

b) If applicable, a description of methods for handling and disposing of contaminated soils.

c) A description of methods for recovering sediments.

d) A description of spill prevention and response procedures for areas where potential spills can occur.

e. *Post-Construction Controls*

A description of the post-construction control measures to be implemented until final stabilization is achieved.

f. *Inspection and Maintenance*

A description of procedures which will be used to inspect and maintain, in good and effective operating condition, the storm water controls identified in the SWPP Plan. Site inspections must be in accordance with Part III of this permit.

g. *Signature*

All SWPP Plans must be signed in accordance with Part IV.E of this permit.

D. **Additional Terms and Conditions**

Storm water discharges from construction sites shall not cause pollution, contamination, or degradation to waters of the state.

1. Visible or measurable erosion which leaves the construction site is prohibited. Visible or measurable erosion is defined as:

   a. Deposits of mud, dirt, sediment, or similar material exceeding one-half cubic foot in volume in any area of 100 square feet or less on public or private streets, adjacent property, or into the storm and surface water either by deliberate actions or as a result of erosion; or

   b. Evidence of concentrated flows of water over bare soils, turbid or sediment-laden flows, or evidence of on-site erosion on bare soil slopes, where runoff of water is not filtered or captured on the site using the techniques in the approved SWPP Plan; or

   c. Earth slides, mud flows, earth sloughing, or other earth movement which leaves the property.

2. If any measurable quantity of sediment leaves the site because of structural failure or lack of design capacity of the BMPs, the sediment shall be placed back on the site or properly disposed of, as soon as is prudent. Under no conditions shall the sediment be washed into the storm sewers or drainage ways.

3. Concrete wash water shall not be discharged to waters of the state or to storm sewer systems.

4. Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled materials from entering waters of the state.

5. No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the Department. In granting the use of such chemicals, special conditions and monitoring may need to be addressed through an individual NDPDES permit or an alternative NDPDES general permit.

6. All storm water discharges must comply with the requirements, policies, or guidelines, of municipalities and other local agencies. Any discharges of storm water to storm drainage systems or other water courses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NDPDES permits, must comply with their local requirements.

PART III - EFFLUENT LIMITATIONS, MONITORING, RECORDING, AND REPORTING REQUIREMENTS

A. Effluent Limitations

The quality of storm water discharges associated with construction activity shall reflect the best which is attainable through the proper implementation of all items in the SWPP Plan for the construction site.

B. Monitoring Requirements

The permittee shall inspect the construction site to ensure that the storm water controls identified in the SWPP Plan are effective and properly maintained. The construction site perimeter, disturbed areas, and areas used for material storage shall be inspected for evidence of, or the potential for, erosion, sediment accumulation, sediment material residue and spills. The following guidelines shall be used for monitoring the effectiveness of the SWPP Plan:

1. Inspection Frequency:

   a. Large Construction Activity

      Inspections shall be performed by or under the direction of the permittee at least once every 7 calender days and within 24 hours after any storm event of greater than 0.50 inches of rain per 24-hour period. The permittee shall have the option of maintaining a rain gauge at their site or utilizing the nearest National Weather Service precipitation gauge station. Any gauge station used shall be located within 10 miles of the storm water discharge.

   b. Small Construction Activity

      Inspections shall be performed by or under the direction of the permittee at least once every 14 calendar days and within 24 hours after any storm event of greater than 0.50 inches of rain per 24-hour period. The permittee shall have the option of maintaining a rain gauge at their site or utilizing the nearest National Weather Service precipitation gauge station. Any gauge station used shall be located within 10 miles of the storm water discharge.

2. During storm events or periods of snow melt, when runoff occurs daily, all SWPP Plan controls shall be inspected by or under the supervision of the permittee daily.

3. Storm water runoff discharges shall be visibly monitored at the above frequency to evaluate the effectiveness of the SWPP Plan controls. If any measurable quantities of sediment are leaving the property, corrective action shall be taken as soon as is prudent to reduce the discharge of sediments.

4. There may be times when the performance of the site inspection may not be practical during an inspection period. Adverse climatic conditions, such as flooding, high winds, tornadoes, electrical storms, etc., or impracticable climatic conditions, such as drought, extended frozen conditions, etc., may prohibit inspections. Should this occur, the permittee must make a record of the description of why the inspection(s) could not be performed in lieu of the actual inspection data. Any available documentation of the events which did not allow for the inspection should also be available.

C. **Recording Requirements**

Inspection results shall be summarized and recorded on a Site Inspection Record (SIR). The SIRs shall be maintained on-site, in accordance with Part IV.D of this permit. The SIR shall contain, at a minimum, the following information:

1. The date and time of inspection.
2. The name of the person performing the inspection.
3. The date and duration (in hours) of the storm event.
4. The rainfall measurements or estimates (in inches) of the storm event.
5. The duration of time between this event and the end of the most recent storm event which was 0.50 inches or greater in precipitation.
6. All incidents of erosion, sediment accumulation, material residue, or spills shall be documented and noted on the SIR. The report shall include the location and description of the incident, estimated quantity of material or size of area affected, and a brief explanation of potential cause and remedial action taken.
7. Any measurable quantities of sediment released off the site, shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measures taken to clean up the sediment that has left the site.
8. If no storm event occurs during an inspection period, “no discharge” shall be recorded on the SIR.

D. **Annual Location Record Report - (Small Construction Activity only)**

Operators of Small Construction Activity shall maintain a Location Record that shows the locations they operated small construction activity.

1. Contents of the Location Record

The Location Record shall contain the following:

a. Permit number
b. Name and mailing address of the owner or operator
c. Name of each small construction site
d. Location of each site (street address, latitude and longitude, or legal land description of township, range, section, and 1/4 section)
e. Start date of each site
f. The estimated area of total disturbance in acres of each site
g. Status of each site (in progress, grading complete, final stabilization date)

2. Submittal

A copy of the Annual Location Record shall be submitted to the Department by January 31 of each year, covering the small construction sites operated during the preceding calendar year (January 1 through December 31). The report shall be submitted to the Department at the following address:

North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58506-5520

PART IV - COMPLIANCE RESPONSIBILITIES

A. **Duty to Comply** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the Department advance notice of any planned changes at the permitted facility or of any activity which may result in permit noncompliance.

B. **Operation and Maintenance** The permittee shall at all times maintain in good working order, and operate as efficiently as possible, all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit and with the requirement of the SWPP Plans. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

C. **Duty to Provide Information** The permittee shall furnish to the Department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

D. **Records Retention** All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the Department or EPA.

E. **Signatory Requirements** All applications, reports, or information submitted to the Department shall be signed and certified by the permittee in accordance with the following criteria:

1. All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official, in addition to contractors and subcontractors involved in the construction activity or SWPP Plan.

2. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Department; or

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

3. If an authorization under Part IV.E.2 is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

F. **Immediate Notification** The permittee shall report any noncompliance of discharge which may seriously endanger health or the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstance. The report shall be made to the EPA, Region VIII, National Emergency Response Center, at 1-800-424-8802 and the State of North Dakota, Division of Emergency Management, 1-800-472-2121. In addition, a written submission to both the Department and EPA shall be provided within five days of the time that the permittee became aware of the circumstances. The submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the estimated time noncompliance is expected to continue if it has not been corrected; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

G. **Bypassing** Any bypass is prohibited except where unavoidable to prevent loss of life, personal injury, or severe property damage, and there were no feasible alternatives to the bypass. The permittee shall provide notification of unanticipated bypasses as may be required by Part IV.F, Immediate Notification. If, for other reasons, a bypass is considered necessary, a request to bypass shall be submitted, at least 15 days in advance if possible, to the Department. No bypass of this type shall occur until permission has been obtained from the Department.

H. **Upset Conditions** An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of the following paragraph are not met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

1. An upset occurred and the permittee can identify its cause(s);

2. The permitted facility was, at the time, being properly operated;

3. The permittee submitted notice of the upset as may be required under Part IV.F, Immediate Notification; and

4. The permittee complied with any remedial measures required under Part IV.I, Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. **Duty to Mitigate** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the Department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

J. **Removed Materials** Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering waters of the state or creating a health hazard.

PART V - GENERAL REQUIREMENT

A. **Right of Entry** The permittee shall allow Department and EPA representatives, at reasonable times and, if requested, upon the presentation of credentials, to inspect any facilities or equipment (including monitoring and control equipment), to sample discharges, and to have access to and copy any records required to be kept by this permit. For facilities which discharge to a municipal or other separated storm sewer, this shall also pertain to authorized representatives of the municipal operator or the separate storm sewer receiving the discharge.

B. **Availability of Reports** Except for data determined to be confidential under 40 CFR, Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

C. **Transfers** This permit is not transferable except upon the filing of a Statement of Acceptance by the new party and subsequent Department approval. The Department may require the new operator to apply for and obtain an individual NDPDES permit as stated in Part I.G. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the Department of the possible change.

D. **New Limitations or Prohibitions** The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307 (a), of Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations, even if the permit has not yet been modified to incorporate the requirements.

E. **Permit Actions** This permit may be modified, revoked and reissued, or terminated for cause. Also, if there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or coverage under an alternative general permit in accordance with Part I.E of this permit. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit conditions.

F. **Need to Halt or Reduce** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. **State Laws** Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

H. **Oil and Hazardous Substance Liability** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 311 of the Act.

I. **Property Rights** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges; nor does it authorize any injury to private property or any invasion of personal rights; nor any infringement of federal, state, or local laws or regulations.

J. **Severability** The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

PART VI - DEFINITIONS

"the Act" means the Clean Water Act.

"BMP" or "Best Management Practices" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

“Bypass" means the intentional diversion of waste streams from any portion of a treatment facility."Construction" means any activity associated with construction, including but not limited to: clearing, grading, and excavation.

"Department" means the North Dakota State Department of Health, Division of Water Quality.

"Grab" sample, for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.

“Large Construction Activity” means land disturbance of equal to or greater than 5 acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than five acres.

“Non-storm water discharges” means discharges other than storm water. The term includes both process and non-process sources. Process waste water sources that require a separate NDPDES permit include, but are not limited to industrial processes, domestic facilities and cooling water. Non-storm water sources that may be addressed in this permit include, but are not limited to: fire hydrant flushing and testing, potable water line flushing, infrequent building and pavement washdowns without detergents, uncontaminated foundation drains, springs, lawn watering and air conditioning condensate.

"Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

"Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

“Small Construction Activity” means land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.

"Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

“Storm water discharge associated with industrial activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. The term
does not include discharges from facilities or activities excluded from the NDPDES program. For the categories of industries identified in subparagraphs (i) through (x) of this subsection, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or byproducts used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in subparagraph (xi), the term includes only storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by products, or industrial machinery <u>are exposed to storm water</u>. For the purposes of this paragraph, material handling activities include: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, byproduct or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots, as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally or municipally owned or operated that meet the description of the facilities listed in this paragraph [(i)-(xi)] include those facilities designated under 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR, Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry), including active or inactive mining operations [except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(1)], and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection), including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42, 44, and 45, which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i) - (vii) or (ix) - (xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility, with design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

(x) Construction activity including clearing, grading, and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25 [and which are not otherwise included within categories (i) - (x)].

“Storm water discharge associated with small construction activity” means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal

to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

(ii) Any other construction activity designated by EPA or the Department, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the state.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Waters of the state": Any and all surface waters that are contained in or flow in or through the state of North Dakota as defined in NDCC 61-28-02. This definition includes all water courses, even if they are usually dry.

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SECTION 01720

CONTRACTOR SURVEYS

PART 1 GENERAL (NOT APPLICABLE)

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 FIELD LAYOUT SURVEYS

The Contractor shall layout the work from the Government established bench marks in accordance with CONTRACT CLAUSE 52.236-17 LAYOUT OF WORK. The construction of each feature of work shall follow the alignments as indicated on the drawings. The Contractor shall have in place, at least 7 calendar days prior to commencing construction operations, sufficient stakes and markings to enable the Contracting Officer to observe the field layout of the alignment and limits of each feature of work. For each feature of work, these stakes shall define areal limits such that the Contracting Officer can easily determine, without additional surveys, if alignment and/or limit adjustments need to be made. For embankments and similar work, these stakes shall define centerline, stationing, outermost fill/cut limits, and work limits. For structures and similar work, the structure corners and grid lines shall be staked. General site work shall be staked to define staging areas, storage areas, and other area limits as directed. The Contracting Officer may waive these requirements for certain areas. The layout shall be sufficient for the Contracting Officer to mark trees, vegetation and other features to be left undisturbed. No work shall take place without approval of field layout by the Contracting Officer.

3.1.1 Alignment Changes

The Government reserves the right to make changes in the alignment of any feature of work as may be found necessary during the course of the contract. If it becomes necessary, through no fault of the Contractor, to abandon a line, location or feature on which work has been done, an equitable adjustment for completed work will be made. No alignment changes or abandonment shall take place without prior written notice from the Contracting Officer.

3.2 UTILITY AS-BUILT SURVEYS

An as-built field survey of all utilities shall be conducted after installation to determine the final locations and elevations of all utility structures such as manholes, catch basins, hydrants, gate valves, cleanouts, service connections, and other special controls or structures. Final elevations shall be determined for all sewer inverts and castings. Locations shall be shown using the same convention as the original contract drawings (typically stationing and offset from known centerline). If no convention is used in the contract drawings, locations shall be tied to at

least 2 permanent landmarks. This information shall be included on the Contractor Record Drawings in Section 01780 CLOSEOUT SUBMITTALS.

3.3 QUANTITY SURVEYS FOR MEASUREMENT AND PAYMENT

The Contractor shall perform quantity surveys in accordance with CONTRACT CLAUSE 52.236-16 QUANTITY SURVEYS--ALTERNATE I. Quantity surveys shall be completed for all features of work necessary to establish measurement for partial and final payments. Surveys shall be completed in enough detail to accurately determine quantities and verify the required section. The quantity surveys shall meet the following criteria:

a. Complete initial surveys prior to commencement of construction of each feature, and prior to disturbance in the area.
b. Space cross sections at 100 foot maximum intervals. Include additional cross sections as necessary to define the geometry.
c. Each cross section from the survey notes shall be plotted at a scale of 1" = 10'.
d. Provide a copy of the survey notes and cross sections to the Contracting Officer within 10 days after completion of the survey.
e. Complete partial surveys as necessary to supplement payment requests.
f. Complete final surveys upon completion of each feature.

The Contracting Officer may use the surveys for tolerance verification purposes.

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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-11 Closeout Submittals

As-Built Drawings; G,GEN

Contractor record drawings showing final as-built conditions of the project.

1.2 AS-BUILT DRAWINGS

Paper prints and reproducible drawings will become the property of the Government upon final approval. Failure to submit final as-built drawings and marked prints, as required herein, will be cause for withholding payment due the Contractor under this contract. These drawings shall be furnished to the Contracting Officer within 30 days after the required contract completion date. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.3 CONTRACTOR RECORD DRAWINGS

The Contractor shall maintain a separate set of marked-up full-scale contract drawings indicating as-built conditions. These drawings shall show all changes and revisions made up to the time the work is completed and accepted. These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Government personnel at all times. All variations from the contract drawings, for whatever reason, including those occasioned by modifications, optional materials, and the required coordination between trades, shall be indicated.

1.3.1 Changes and Corrections

The working and final as-built drawings shall show, but shall not be limited to, the following information:

a. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.
b. Surveyed elevations shall be listed for all sewer inverts and castings.

c. The location and dimensions of any changes within structures.
d. Changes in details of design.
e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

1.3.2 Drawing Standards

a. Deleted items shall be indicated in red.
b. Added items or changed locations shall be shown in green.
c. Variations shall be shown in the same general detail utilized in the contract drawings.
d. Revisions shall be shown on all drawings and details related to the changed feature.
e. All markups shall be neat, clean and legible.
f. Where contract drawings or specifications present options, only the option selected for construction shall be shown.

PART 2 PRODUCTS (NOT USED)

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SECTION 02230

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 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 down timber, snags, brush, and rubbish occurring in the areas to be cleared. Clearing operations shall be conducted in work limits designated on the drawings.

1.1.2 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. Grubbing operations shall be done in areas for structures and areas to receive approach fill or to be paved as shown on the drawings.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 CLEARING

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. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. 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.

3.2 GRUBBING

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 24 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 bridge approaches 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.

3.3 TREE REMOVAL

Where indicated or directed, trees and stumps that are designated as trees shall be removed from areas outside those areas designated for clearing and grubbing. This work shall include the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

3.4 DISPOSAL OF MATERIALS

Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations shall be disposed of offsite in accordance with Section 01000 GENERAL, 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.

3.5 ACCEPTANCE

Upon completion of the site clearing, obtain the Contracting Officer's acceptance of the extent of clearing and grubbing.

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SECTION 02240

DEWATERING, COFFERDAMS, AND SHORING

PART 1 GENERAL

1.1 DEFINITIONS

Safety Manual. EM 381-1-1.

Dewatering. Removal of groundwater to lower the groundwater level or relieve ground water pressure in a localized area.

Unwatering. Removal of surface water by direct pumping, without the use of sumps or special purpose equipment.

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.

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
EM 1110-2-1913	(2000) Design and Construction of Levees
ETL 1110-2-328	(1993) Reliability Assessment of Existing Levees for Benefit Determination

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2451	Standard Specifications for Construction (2000 Edition), Structure Excavations and Backfills

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION(OSHA)

29 CFR 1926	Subpart P, Excavations

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

Dewatering/Unwatering Plan;

A dewatering/unwatering plan shall be submitted for each bridge pier. The plan shall be reviewed and signed by a Registered Professional Engineer. The plan shall include the following items:

1. layout (including the relationship to site improvements and construction operations)
2. type, sizes, depth and spacing of dewatering devices
3. number and capacity of pumps
4. design assumptions, analysis methods, and calculations
   - 4A. justification for pump capacity
   - 4B. justification for slot size on screens
   - 4C. justification for screen intake area
   - 4D. justification for filter pack gradation
5. description of installation equipment
6. description of operating procedures
7. description of discharge point (weirs, sedimentation basin, etc.)
8. type and location of monitoring equipment
9. removal and abandonment plans

Government review of the proposed dewatering/unwatering system will not relieve the Contractor of full responsibility for the adequacy of the dewatering operations. The Contractor shall be responsible for dewatering effects on adjacent properties, including but not limited to blockage of easements, erosion or sedimentation of ditches, and encroachment onto private property by flooding from pump outlets and sedimentation basins.

Shoring plan;

Plans and design computations for all shoring used shall be submitted at least 30 days prior to installation. Designs based on tabulated data shall include all information described in the Safety Manual. The plan shall be reviewed and signed by a Registered Professional Engineer.

Cofferdam plan;

Plans showing layout of all cofferdams over 3 feet in maximum height shall be submitted prior to installation. Plans showing layout, construction type, cross sections, and (for earthfill cofferdams) borrow source materials shall be submitted at least 30 days prior to installation of any cofferdams over 6 feet in maximum height. The plan shall be reviewed and signed by a Registered Professional Engineer.

1.4 GEOLOGIC INFORMATION

Ground water elevations shown on the boring logs are those encountered at the time the borings were taken. Because groundwater elevations are dependent upon hydrologic conditions, variations in the water table should be expected. For work near rivers and navigable waterways, refer to the hydrographs included with the contract drawings. It shall be the Contractors responsibility to perform the necessary dewatering operations irrespective of the water elevations at the time of the work. However, nothing in this clause prohibits the Contractor from receiving a time extension under the Default clause, the Time Extensions for Unusually Severe Weather clause, or any other clause in this contract.

1.5 DEWATERING/UNWATERING

The Contractor shall design, furnish, install and operate dewatering/unwatering systems in conjunction with associated cofferdams, shoring, and other related work.

Control of groundwater and surface water shall be accomplished in a manner that will provide suitable working conditions for construction, preserve the strength of the foundation soils, will not cause instability of excavations, and will not result in damage to existing structures. Suitable working conditions for construction will provide a dry or moist subgrade free of standing, percolating, or running water during placement and curing of pier footing concrete, and placement and compaction of backfill. Where necessary to these purposes, the water level shall be lowered in advance of excavation utilizing wells, wellpoints, or similar methods. For bridge abutment foundations, the water level (as measured in piezometers, test pits, or sumps) shall be maintained a minimum of 1 foot below the prevailing excavation level, or it shall be lowered to within 2 feet of impermeable stratigraphy.

1.5.1 Design

If conditions warrant, and if not otherwise specified in the contract documents, dewatering/unwatering may consist of collection in sumps or trenches, and open pumping. Sumps, trenches and running water shall not jeopardize erosion or ground loss near foundations, pipes, or other structures. Open pumping will not be permitted if it results in boils, seepage in concrete placement areas, loss of fines, softening of the ground, instability of slopes, or interference with orderly progress of the construction.

1.5.2 Regulations

Compliance with all regulations shall be incidental to the dewatering work. Disposal of water shall be in accordance with Section 01355 ENVIRONMENTAL PROTECTION and all applicable regulations. Well abandonment shall seal aquifers and confining layers in compliance with environmental regulations and permits.

1.6 SHORING

Shoring and trench support systems shall be coordinated with the dewatering/unwatering effort to provide safe and reliable conditions.

1.6.1 General

At locations where shoring is not specifically required by the contract documents to safeguard adjacent structures, the Contractor may at its own option employ shoring for protecting work areas within excavations in lieu of performing excavation to safe and stable side slopes. The Contractor shall construct all shoring required in performing the excavations. Shoring shall be constructed in accordance with the safety requirements of EM 385-1-1 and the OSHA regulations in 29 CFR 1926.

1.6.2 Responsibility

The Contractor shall be responsible for design and maintenance of all shoring which the Contractor proposes to install.

1.7 COFFERDAMS

Cofferdams and diversion structures shall be coordinated with the dewatering effort to provide safe and reliable conditions.

1.7.1 Responsibility

The Contractor shall be responsible for design and maintenance of all cofferdams which the Contractor proposes to install.

1.8 MEASUREMENT AND PAYMENT

1.8.1 Dewatering/Unwatering

No separate payment will be made for dewatering/unwatering on this project and compensation for all dewatering/unwatering operations shall be included in the respective contract items to which the work pertains.

1.8.2 Shoring

No separate payment will be made for shoring on this project and compensation shall be included in the respective contract items to which the work pertains.

1.8.3 Cofferdams

No separate payment will be made for cofferdams on this project and compensation shall be included in the respective contract items to which the work pertains.

PART 2 PRODUCTS

2.1 DEWATERING WELLS

Wells and wellpoints shall be installed with suitable screens and filters so that continuous pumping of fines does not occur. Pumps shall discharge into a settling tank to check for movement of sand.

PART 3 EXECUTION

3.1 DEWATERING OPERATIONS

3.1.1 Well Setback

The following criteria shall be followed to the maximum extent possible. Where permanent site features restrict placement of dewatering devices, the Contracting Officer will allow a variance. Wellpoints shall be located a minimum horizontal distance away from structures (existing and proposed) equal to the depth of penetration below foundation elevation. Wells larger than 3 inches diameter shall be located a minimum horizontal distance away from structures equal to half the depth of penetration below foundation elevation plus 5 feet.

3.1.2 Well Installation near Roads and Levees

Wells larger than 3 inches diameter shall not be jetted through roadway and

levee embankments. Wells larger than 3 inches diameter located on the up gradient side of levees, dikes, dams or floodwalls shall be screened without a gravel filter pack. These wells shall be abandoned by plugging the hole with a cement-bentonite grout. The screens shall include a loose end cap to allow removal of screen and casing without hole collapse.

3.1.3 Operation

Upon installation and commencement of dewatering operations, the system shall be operated continuously (24 hours/day, 7 days/week) until the structure and backfill are completed to the groundwater elevation. The Contractor shall be responsible for maintaining the system. Surface drainage shall be controlled by rerouting storm water runoff or diverting natural drainage, as necessary.

3.1.4 Removal

Upon completion of the work, well casing and screens shall be withdrawn, and all equipment shall be removed (including related temporary cofferdams, shoring, etc.)

3.2 SHORING

Shoring shall be completed in accordance with the shoring plan submittal. Unless otherwise authorized, all sheeting and bracing shall be removed to an elevation at least 2 feet below the established bottom of channel when backfill is completed.

3.3 COFFERDAMS

Cofferdams, concrete foundation seals, and pumping shall meet the requirements of MNDOT 2451.

Pier foundation seals are designed for a water elevation 5 feet above the average summer water elevation shown on the plan. Cofferdams shall be designed and constructed to become filled with water if the water surface elevation rises above the design elevation for the foundation seal.

Earthfill cofferdams with maximum height greater than 6 feet shall be constructed to the minimum dimensions for the Probable Failure Point template described in ETL 1110-2-328. The Contractor shall temporarily stop work in the area protected by the cofferdam and evaluate the need to raise or reinforce the cofferdam if any of the conditions occur during the course of the work:

a. The freeboard of any earthfill cofferdam drops below 2 feet.
b. Active boils or seepage problems occur.
c. The cofferdam alignment or top elevation bows or becomes distorted from the as-built section.
d. Cracks or displacement occurs related to slides or slope stability.

If failure of the cofferdam affects safety or Government investment, then evaluation of and mitigation for distressed earthfill cofferdams shall be in general accordance with applicable provisions of EM 1110-2-1913.

3.4 SURFACE WATER MANAGEMENT DURING CONSTRUCTION

Red River of the North is prone to experience extremely high flood stages of relatively long duration. The Contractor shall be responsible for

monitoring local weather conditions and flow conditions in order to anticipate flooding conditions prior to their occurrence. The Contractor shall keep the Contracting Officer informed regarding all flooding conditions on the Red River of the North.

The Contractor should satisfy itself before submitting its bid as to hazards that arise from weather conditions and flooding. Red River of the North rating curves and hydrographs are included in the contract drawings. These references include:

1. Red River of the North Monthly Flow Duration Curves.
2. Mean Daily Flows for Red River of the North, Water Years 1991 through 2000.
3. Red River of the North Elevation-Discharge Rating Curve.

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SECTION 02300

EARTHWORK

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 C 117	(1995) Materials Finer Than 75 Micrometers (No. 200 Sieve) in Mineral Aggregates by Washing
ASTM D 698	(1991; R 1998) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3) (600 KN-m/m3)
ASTM D 1556	(1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2488	(1993) Description and Identification of Soils
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1988; R 1996) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	(1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4718	(1987; R 1994) Correction of Unit Weight and Water Content for Soils Containing Oversize Particles

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

Borrow Sources; G, GT

The Contractor shall designate in writing the source(s) he proposes to use for required borrow materials.

SD-06 Test Reports

Testing;

A summary of testing results indicated in PARAGRAPH: TESTING shall be submitted when the site work is substantially complete. The Contracting Officer shall be informed of test results daily for direction on corrective action required. Draft copies of field testing results shall be furnished to the Contracting Officer on a frequent and regular basis as directed, but do not need to be formally transmitted through the submittal process.

Daily Report Forms;

A compilation of the daily report forms for earthwork observation and inspection trench observations ordered by date shall be submitted when the work is substantially complete. Preliminary copies shall be furnished to the Contracting Officer on a weekly or monthly basis as directed, but do not need to be formally transmitted through the submittal process.

1.3 SUBSURFACE DATA

Reference the Physical Data clause in Section 00700.

1.4 BORROW SOURCES AND EVALUATION

Borrow materials shall be produced from the source(s) located and paid for by Contractor. The Government will make such investigations and evaluations as necessary to determine whether or not materials with acceptable characteristics can be obtained from the proposed source(s). Approval (or rejection) will require at least 30 days, but not more than 120 days. Borrow areas which involve the excavation of wetlands or wooded areas will not be approved.

1.4.1 Alternate Sources

a. Evaluation by Site Inspection. The Government will evaluate Contractor's proposed borrow source. An investigation shall be performed by a Government geologist or engineer. The Contractor shall expose fresh soil for the full height of the face proposed for production during the field evaluation.

b. Evaluation by Test Data. If sufficient information is not available as a result of Government's site inspection, the Government will reconsider the proposed source if evaluation is supplemented by sampling and testing of the properties specified for the material. If the Contractor wishes to pursue the proposed source, the Government will notify the Contractor of required sampling and number of tests required. The Contractor shall be responsible for sampling and testing costs for proposed source. The Contracting Officer shall be present during the sampling, unless waived.

Information provided with the samples shall include the location and elevation from which the sample was taken. Testing shall be completed by a laboratory approved in accordance with SECTION 01451: CONTRACTOR QUALITY CONTROL. Test results and jar samples shall be furnished to the Government geologist at the District Office. This will require a 14 day evaluation period after the test results are received at the District Office.

PART 2 PRODUCTS

2.1 DEFINITIONS

2.1.1 Satisfactory Materials

Satisfactory materials shall be of a character and quality satisfactory for the purpose intended, and meet the applicable material specifications.

2.1.2 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 GM and SM will be identified as cohesionless only when the fines are nonplastic.

2.1.3 Proctor

Degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 698. The maximum density is hereafter abbreviated as the "Standard Proctor" or "Proctor" value.

2.2 MATERIALS

All material placed as fill or backfill shall consist of material classified by ASTM D2487 as GW, GP, GC, GM, SP, SM, SC, CL, CH, or SW. The material shall be free of ice, snow, frozen earth, trash, debris, sod, roots, organic matter, or stones larger than 3 inches in any dimension.

2.2.1 Common Borrow

Common borrow shall have less than 40% retained on the No. 4 sieve, and less than 30% retained on the 3/4" sieve.

2.2.2 Granular Fill and Backfill

Granular fill and backfill shall meet requirements for common borrow and shall contain not more than 12 percent by weight of material passing the No. 200 sieve.

2.2.3 Impervious Fill

Impervious fill shall meet requirements for common borrow with more than 30% by weight passing the No. 200 sieve and shall have a plasticity index less than 50.

2.2.4 Select Impervious Fill

Select impervious fill shall meet requirements for common borrow, shall have a plasticity index less than 30, a clay fraction less than 40% by

weight finer than 0.002 mm and classified by ASTM D 2487 as CL or CH.

2.3 CONSTRUCTION EQUIPMENT

Compaction equipment shall consist of sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil type being compacted. Water flooding or jetting methods of compaction will not be permitted for any soil types. Sprinkling equipment for cohesive soils shall apply water uniformly, in controlled quantities, and be capable of variable application widths.

2.3.1 Dams and Levees

Use of sheepsfoot rollers (vibratory or non-vibratory), or scarification between lifts, is required for construction of dams, dikes, or levees (any water retaining structures). Construction equipment and methods shall avoid poor bonding between lifts, characterized by layered or laminated texture at the lift interfaces. Smooth surfaces (such as produced from smooth drum rollers, rubber-tired rollers, and construction traffic) shall be scarified prior to placing subsequent lifts.

PART 3 EXECUTION

3.1 CLASSIFICATION OF SOIL MATERIALS

Classification of soil materials shall be performed by the Contractor in accordance with ASTM D 2488. The Contracting Officer reserves the right to revise the Contractor classifications. In the case of disagreement, the Contracting Officer's classification will govern unless the soils are classified in accordance with ASTM D 2487. All testing completed by the Contractor in conjunction with soil material classification will be considered incidental to the contract work.

3.2 STOCKPILES

Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed. 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 contaminated, frozen or too wet for use, such material shall be removed and replaced with satisfactory material from approved sources at no additional cost to the Government.

3.3 STRIPPING OF TOPSOIL

Where indicated or directed, topsoil shall be stripped to a depth of 6 inches. Topsoil shall be spread on areas already graded and prepared for topsoil, or transported and deposited in stockpiles convenient to areas that are to receive application of the topsoil later, or at locations indicated or specified. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 2 inches in diameter, and other materials that would interfere with planting and maintenance operations. Any surplus of topsoil from excavations and grading shall be removed from the site.

3.4 EXCAVATION

After topsoil removal has been completed, excavation of every description, regardless of material encountered, within the grading limits of the project shall be performed to the lines and grades indicated. Excavation material suitable for use as fill shall be transported to and placed in fill areas within the limits of the work. All unsatisfactory material, including any soil which is disturbed by the Contractor's operations or softened due to exposure to the elements and water, and surplus material shall be hauled and disposed of off-site on a Contractor-furnished disposal area at no additional cost to the Government. Excavations carried below the depths indicated shall be refilled to the proper grade with satisfactory material. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be excavated from approved borrow areas selected by the Contractor as specified.

3.4.1 Changes and Differing Site Conditions

Any excavation subgrades that are unstable, pump, rut excessively, reveal soil conditions that are substantially different from that indicated in the contract, or are unsuitable for proceeding with the work shall immediately be reported to the Contracting Officer. In the event that it is necessary to remove material to a depth greater than specified, the Contracting Officer will provide direction for changed work; and an adjustment in the contract price will be considered in accordance with the contract. Unsatisfactory material encountered below the grades shown shall be removed as directed. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Contracting Officer. The Contracting Officer shall be notified prior to proceeding with any unauthorized work. Additional work not authorized by the Contracting Officer shall be at the Contractor's expense.

3.5 DITCHES

Ditches shall be cut accurately to the cross sections and grades indicated. Ditches shall be finished in a manner that will result in effective drainage. All roots, stumps, rock, and foreign matter in the sides and bottom of ditches shall be trimmed and dressed or removed to conform to the slope, grade, and shape of the section indicated. Care shall be taken not to excavate ditches below the grades indicated. Excessive ditch excavation shall be backfilled to grade with properly placed and compacted material. All ditches excavated under this section shall be maintained until final acceptance of the work. Satisfactory material excavated from ditches and channel changes shall be placed in fill areas.

3.6 BORROW MATERIAL

Borrow material shall be selected to meet the requirements and conditions of the particular fill or embankment for which it is to be used. Borrow material shall be obtained from approved private sources selected by the Contractor. Unless otherwise provided in the contract, the Contractor shall obtain from the owners the right to procure material, pay royalties and other charges involved, and bear the expense of developing the sources, including rights-of-way for hauling. Unless specifically provided, no borrow shall be obtained within the limits of the project site without

prior written approval. Necessary clearing, grubbing, and drainage of borrow pits and the disposal of debris thereon shall be considered related operations to the borrow excavation.

3.6.1 Excavation and Borrow Pits

Except as otherwise permitted, borrow pits and other excavation areas shall be excavated providing adequate drainage. Overburden and other spoil material shall be transported to designated spoil areas or otherwise disposed of at Government approved sites arranged for by Contractor. Borrow pits shall be neatly trimmed and drained after the excavation is completed. The Contractor shall ensure that excavation of any area, operation of borrow pits, or dumping of spoil material results in minimum detrimental effects on natural environmental conditions.

3.6.2 Utilization of Excavated Materials

Material removed from excavations shall be incorporated in the work insofar as practicable. No excavated material that is satisfactory for use as fill shall be wasted without specific written authorization. Material authorized to be wasted shall be stored in designated areas approved for surplus material storage and disposed of offsite. No excavated material shall be disposed of in such a manner as to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

3.7 EMBANKMENTS

Fills and embankments shall be constructed at the locations and to lines and grades indicated. The material shall be placed in successive horizontal layers for the full width of the cross section and shall be compacted as specified. Each layer shall be compacted before the overlaying lift is placed.

3.7.1 Embankment Materials

Approach fill shall be granular fill or impervious fill, at the Contractor's option. Granular backfill shall be used for backfilling behind the bridge abutments. Levee fill shall meet the material specifications for the zones indicated on the drawings.

3.8 STRUCTURES

Excavating and backfilling for structures shall be in accordance with Section 02315 EXCAVATION, FILLING AND BACKFILLING FOR STRUCTURES.

3.9 LEVEES

3.9.1 Embankment

If not specifically identified, common borrow, random fill, or other unclassified material shall be sorted to the extent practicable with the more cohesive and less pervious material placed riverside, and sandy free-draining material placed landside.

3.10 SUBGRADE PREPARATION

All areas upon which fill is to be placed shall be stripped before the fill

is started. Material shall not be placed on surfaces that are muddy, frozen, contain frost, or where unsatisfactory material remains in or under the fill. For cohesionless soils, the top 12 inches of the subgrade surface shall be compacted to at least 100 Percent of the Standard Proctor density. For cohesive soils, the top 12 inches of the subgrade surface shall be compacted to at least 95 Percent of the Standard Proctor density. Sloped ground surfaces steeper than one vertical to four horizontal on which fill is to be placed shall be stepped such that the fill material will bond with the existing surface.

3.10.1 Subgrade Correction

Soft or otherwise unsatisfactory material shall generally be removed and replaced with satisfactory excavated material or other approved material as directed. Low areas resulting from removal of unsatisfactory material shall be brought up to required grade with satisfactory materials, and the entire subgrade shall be shaped to line, grade, and cross section and compacted as specified.

3.11 FINISHING

All areas covered by the project, including excavated and filled sections and adjacent transition areas, shall be uniformly smooth-graded. The finished surface shall be reasonably smooth, compacted, and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from blade-grader operations, except as otherwise specified. Ditches and gutters shall be finished to permit adequate drainage. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing.

3.11.1 Pavement Subgrade Tolerances

When the final layer of subgrade has been completed, and at the time any additional construction is to be placed thereon, the finished surface of the subgrade shall not vary more than 0.05 feet from the plan elevation.

3.12 PLACING TOPSOIL

Topsoil placement is covered in Section 02920 SEEDING AND TOPSOIL. The finished grade shall be such that after subsequent treatment (tillage, topsoiling and planting) the planted grade shall join 1 inch below adjoining surfaced grade of paved areas and even with adjoining turfed areas.

3.13 COMPACTION

3.13.1 Moisture Control

Control of moisture in the fill shall be maintained to provide acceptable compaction. If water is added to fills, the layer shall be spread in even lifts, moistened as necessary, thoroughly mixed, and compacted. Maintain moisture content for select impervious fill between w_o - 3% and w_o + 1% during placement and compaction.

3.13.2 Placement And Compaction

Each layer shall be spread uniformly on an acceptable soil surface. The type of fill, its maximum uncompacted lift thickness, and the minimum compaction requirements (Percent of Standard Proctor density) to which each

type of fill shall be compacted shall be as listed below.

Fill Zone	Maximum Uncompacted Lift Thickness (inches)	Percent of Standard Proctor Density
General Grading	12	90
Structure Subgrade and Backfill	8	95
Pavement Areas	8	see footnote b.
Levees	12	95

a. Fill materials shall be placed in horizontal layers not exceeding 4 inches loose depth when hand operated compactors are used.

b. Embankments and subgrade under pavements shall be compacted to at least the Percent of Standard Proctor density as follows:

(1) For fill sections the top 36 inches below the aggregate base course shall be placed in uncompacted lifts not exceeding 8 inches and compacted to at least 100 Percent of the Standard Proctor density. Fill more than 36 inches below aggregate base course shall be placed in uncompacted lifts not exceeding 8 inches and compacted to at least 95 Percent of Standard Protector density.

(2) For cut sections in cohesionless soils the top 12 inches of the subgrade surface shall be compacted to at least 100 Percent of the Standard Proctor density. For cut sections in cohesive soils, the top 12 inches of the subgrade surface shall be compacted to at least 95 Percent of the Standard Proctor density.

3.14 TESTING

3.14.1 General

All testing expenses shall be the Contractor's responsibility. Prior to sampling and testing the work, testing laboratories shall be inspected and approved in accordance with SECTION 01451: CONTRACTOR QUALITY CONTROL. The Contracting Officer reserves the right to direct the location and select the material for samples to be tested and to direct where and when moisture-density tests shall be performed.

3.14.2 Field Density Tests

Report forms for summaries of field density tests shall include the minimum information. Additional data required by the applicable ASTM test methods shall be kept on file by the Contractor. Tests shall be numbered sequentially throughout the job, and retests shall reference the original test number (1A, 1B, etc.)/

1. Test Number
2. Dry density, water content and gravel content of field test
3. Proctor Number, maximum dry density, optimum water content, and gravel content
4. Relative Compaction
5. Each test shall be plotted on the graphic presentation of the

applicable Proctor test.

3.14.3 Proctor Tests

Report forms for summaries of Proctor tests shall include the minimum information. Additional data required by the applicable ASTM test methods shall be kept on file by the Contractor. Jar samples shall be retained by the testing laboratory for each Proctor test until field testing is completed.

1. Test Number and method
2. Sample location and visual soil description
3. Maximum dry density, and optimum water content
4. Gravel contents in sample and test specimens

3.14.4 Treatment of Oversize Particles for Density Tests

The fine gravel contents shall be corrected by selecting an appropriate Proctor sample. The fine gravel content shall be the particles retained on the No. 4 sieve and passing the 3/4" sieve. The fine gravel content of the field density test shall be within ±5% of the fine gravel content of the Proctor sample.

The oversize fraction shall be particles retained on the 3/4" sieve. For oversize fractions greater than 5%, the oversize particles shall be corrected in accordance with the Finer Fraction Method specified in ASTM D 4718.

Each sand cone test shall report the gravel content retained on the No. 4, 3/8" and 3/4" sieve as appropriate for the proctor method referenced.

Where nuclear testing is used and lack of uniformity in the soil due to layering, rock or voids are suspected, the test volume site shall be dug up and visually examined to determine if the test material is representative of the full material in general and if rock correction is required.

3.14.5 Corrective Action

Tests of materials which do not meet the contract requirements (failing test) will not be counted as part of the required testing. Each such failing test must be retaken at the same location as the failing test was taken. If testing indicates material does not meet the contract requirements, the material represented by the failing test shall not be placed in the contract work or shall be recompacted or removed. The quantity of material represented by the failing test shall be determined by the Contracting Officer up to the quantity represented by the testing frequency. The Contractor may increase testing frequency in the vicinity of a failing test in order to reduce removal requirements, as approved by the Contracting Officer. Such increases in testing frequency shall be at the Contractor's expense and at no additional cost to the Government.

3.14.6 Testing Schedule

a. Moisture-Density Relations (ASTM D 698)

One test for each material variation, not less than 3 tests total.

b. In-Place Densities (ASTM D 1556 or ASTM D 2922)

(1) Typical, 1 test per 1000 CY of fill placed with atleast 1 test per fill type.

(2) Structure foundations, see Section 02315 EXCAVATION, FILLING AND BACKFILLING FOR STRUCTURES.

(3) Paved area subgrades, 1 test per 200 linear feet or fraction thereof.

(4) Paved area fill, 1 test for every 4 vertical feet of fill per 200 linear feet or fraction thereof.

c. Percent Passing No. 200 sieve (ASTM C 117)

(1) Granular Backfill, 1 test per 1000 CY of fill placed, not less than 1 test for each source

d. Plasticity Index (ASTM D 4318)

(1) Cohesive soils, 1 test for each Proctor test
(2) Impervious fill, 1 test per 2000 CY of fill
(3) Select impervious fill, 1 test per 2000 CY of fill

e. Clay Fraction (percent smaller than 0.002 mm, determined in accordance with ASTM D 422)

(1) Select impervious fill, 1 test per 2000 CY of fill.

3.15 NUCLEAR DENSITY TESTING EQUIPMENT

Nuclear density testing equipment shall be used in general accordance with ASTM D 2922 and ASTM D 3017. In addition, the following conditions shall apply:

a. Prior to using the nuclear density testing equipment on the site, the Contractor shall submit to the Contracting Officer a certification that the operator has completed a training course approved by the nuclear density testing equipment manufacturer, the most recent data sheet from the manufacturer's calibration, and a copy of the most recent statistical check of the standard count precision.

b. The first test and every tenth test thereafter shall include a sand cone correlation test. The sand cone test shall be centered over the prepared surface for 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. In addition, testing of aggregate base soils shall include a minimum of 3 sand cone correlations for each day of testing; and testing of bituminous shall include a minimum of 3 core densities for each day of testing. 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:

(1) date, meter serial number and operators initials.
(2) standard count and adjustment data for each test.
(3) material type.
(4) probe depth.
(5) moisture content by each test method and the deviation.
(6) wet density by each test method and the deviation.

c. The nuclear density testing equipment shall be capable of extending a probe 6 inches minimum down into a hole. The probe shall generally be extended to the maximum depth obtainable.

d. Nuclear density testing equipment used within 2 vertical feet from the existing ground water level, 5 horizontal feet from a vertical wall or massive concrete structure, or in a trench shall have the standard count changed before and after each test, or the manufacturers published correction procedure shall be followed.

e. Nuclear density testing equipment shall not be used during rain.

3.16 SUBGRADE AND EMBANKMENT PROTECTION

Compacted subgrades that are disturbed by the Contractor's operations or adverse weather shall be scarified and compacted as specified herein to the required density prior to further construction thereon. Subgrades not meeting the specifications for finish, material type and density at the time of surface material placement shall be corrected at the Contractor's expense. Embankments and subgrades shall be kept crowned or sloped for drainage. Newly graded areas shall be protected from traffic and erosion. Any settlement or washing away that may occur from any cause shall be repaired. No base course or pavement shall be laid until the subgrade has been checked and approved by the Contracting Officer. Ditches and drains along subgrade shall be maintained to provide effective drainage. All work shall implement best management practices for erosion control.

-- End of Section --

DAILY REPORT FORM FOR EARTHWORK OBSERVATION

Project Name:	Date:
Contract Number: DACW37- - -	Temperature
QC Technician/Inspector:	Precipitation
Earthwork Contractor:	

Sunny ☐ partly cloudy ☐ overcast ☐ windy ☐ Other _____

Stripping and Excavation

Area (sta., Elevation)	Depth/Thickness Removed	Excavated Material (ASTM D 2488)	Base Material (ASTM D 2488)

Excavation Equipment:

Description	No. Operating	Type (Make & Model or Capacity)
Dozers		
Backhoes		
Wheel Loaders		
Other_____		

Fill Placement

Area (Sta., Elevation) (Grids, depth below FFE)	Fill Material (ASTM D 2488)	Lift Thickness & Number of Passes

Hauling/Placing Equipment:

Description	No. Operating	Type (Make & Model or Capacity)
Trucks		
Scrapers		
Compactors		
Dozers/Graders		
Other_____		

Density Tests Taken (list numbers): _____

Notes: _____

_____

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SECTION 02315

EXCAVATION, FILLING AND BACKFILLING FOR STRUCTURES

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 698	(1991; R 1998) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1556	(1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2487	(1998) 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)

1.2 DEGREE OF COMPACTION

Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 698, abbreviated as percent laboratory maximum density.

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-06 Test Reports

Testing;

Copies of all laboratory and field test reports within 24 hours of the completion of the test.

PART 2 PRODUCTS

2.1 MATERIALS

In addition to the definitions below, material definitions shall be as specified in Section 02300 EARTHWORK.

2.1.1 Satisfactory Materials

All material placed as fill or backfill for structures shall consist of material classified by ASTM D2487 as GW, GP, GM, SP, SM, or SW.

2.1.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 3 inches. The Contracting Officer shall be notified of any contaminated materials.

2.1.3 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 GM and SM shall be identified as cohesionless only when the fines are nonplastic.

2.1.4 Granular Fill and Backfill

Granular fill shall be as specified in Section 02300 EARTHWORK. Where the term granular backfill is used on the drawings, it shall mean granular fill.

PART 3 EXECUTION

3.1 CLEARING AND GRUBBING

Clearing and grubbing is specified in Section 02230 CLEARING AND GRUBBING.

3.2 TOPSOIL

Stripping topsoil is specified in Section 02300 EARTHWORK.

3.3 EXCAVATION

Excavation shall conform to the dimensions and elevations indicated for each structure except as specified, and shall include all work incidental thereof. Excavation shall extend a sufficient distance from the structure to allow for placing and removal of forms. Excavations below indicated depths will not be permitted except to remove unsatisfactory material. Unsatisfactory material encountered below the grades shown shall be removed as directed and replaced with satisfactory material; and payment will be made in conformance with the CHANGES clause of the CONTRACT CLAUSES. Satisfactory material removed below the depths indicated, without specific direction of the Contracting Officer, shall be replaced, at no additional cost to the Government, with satisfactory materials to the indicated excavation grade. Satisfactory material shall be placed and compacted as specified in paragraph FILLING AND BACKFILLING. Determination of

elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Contracting Officer.

3.4 DRAINAGE AND DEWATERING

3.4.1 Drainage

Surface water shall be directed away from excavation and construction sites to prevent erosion and undermining of foundations. Diversion ditches, dikes and grading shall be provided and maintained as necessary during construction. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained.

3.4.2 Dewatering

See Section 02240 DEWATERING, COFFERDAMS, AND SHORING for dewatering requirements. The foundation excavation shall be dewatered following sufficient curing of the pier seals to facilitate pouring of pier footings in the dry. Water flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained continuously, at least 2 feet below the working level. Shut off dewatering system at such a rate to prevent a quick upsurge of water that might weaken the subgrade.

3.5 SHORING

See Section 02240 DEWATERING, COFFERDAMS, AND SHORING for shoring requirements.

3.6 CLASSIFICATION OF EXCAVATION

Excavation will be unclassified regardless of the nature of material encountered.

3.7 BLASTING

Blasting will not be permitted.

3.8 BORROW

Where satisfactory materials are not available in sufficient quantity from required excavations, approved materials shall be obtained as specified in Section 02300 EARTHWORK.

3.9 EXCAVATED MATERIALS

Satisfactory excavated material required for fill or backfill shall be placed in the proper section of the permanent work required under this section or shall be separately stockpiled if it cannot be readily placed.

Satisfactory material in excess of that required for the permanent work and all unsatisfactory material shall be disposed of as specified in Section 02300 EARTHWORK.

3.10 FINAL GRADE OF SURFACES TO SUPPORT CONCRETE

Excavation to final grade shall not be made until just before concrete is to be placed. For pile foundations, the excavation shall be to the bottom of the footing or footing seal before driving piles to the elevations shown.

3.11 SUBGRADE PREPARATION

Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials as directed by the Contracting Officer. The surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, pulverized, and compacted to the specified density. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted. Material shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Minimum subgrade density shall be as specified in paragraph FILLING AND BACKFILLING.

3.12 FILLING AND BACKFILLING

Satisfactory materials shall be used in bringing fills and backfills to the lines and grades indicated and for replacing unsatisfactory materials. Satisfactory materials shall be placed in horizontal layers not exceeding the uncompacted thickness specified below. After placing, each layer shall be plowed, disked, or otherwise broken up, moistened or aerated as necessary, thoroughly mixed and compacted as specified. Backfilling shall not begin until construction below finish grade has been approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall be brought to indicated finish grade. Backfill shall not be placed in wet or frozen areas. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation than a distance equal to the height of backfill above the top of footing; the area remaining shall be compacted with power-driven hand tampers suitable for the material being compacted. Backfill shall be placed carefully around pipes to avoid damage to coatings, or wrappings. Backfill shall not be placed against foundations prior to 7 days after completion of the foundation. As far as practicable, backfill shall be brought up evenly on each side of the foundation and sloped to drain away from the wall. Each layer of fill and backfill shall be compacted to not less than the percentage of maximum density specified below:

Fill Zone	Maximum Uncompacted Lift Thickness (inches)	Percent of Standard Proctor Density
Structure Subgrade and Backfill	8	95

a. Fill materials shall be placed in horizontal layers not exceeding 4 inches loose depth when hand operated compactors are used.

Approved compacted subgrades that are disturbed by the Contractor's operations or adverse weather shall be scarified and compacted as specified herein before to the required density prior to further construction thereon.

3.13 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. Testing shall be performed in accordance with Section 01451 CONTRACTOR QUALITY CONTROL.

3.13.1 In-Place Densities (ASTM D 1556 and ASTM D 2922)

In-place density and moisture content test results shall be included with the Contractor's daily construction quality control reports.

3.13.1.1 In-Place Density of Structure Subgrade

One test per 500 square feet or fraction thereof.

3.13.1.2 In-Place Density of Structure Fills and Backfills

Not less than 1 test for each 4 vertical feet of fill per 500 square feet or fraction thereof.

3.13.2 Optimum Moisture and Laboratory Maximum Density (ASTM D 698)

Tests shall be made for each type material or source of material, including borrow material to determine the optimum moisture and laboratory maximum density values. One representative test per source or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density will be made.

3.14 GRADING

Areas within 5 feet outside of each structure shall be constructed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

3.15 TOPSOIL AND SEEDING

Placement of topsoil and seeding is specified in Section 02920 SEEDING AND TOPSOIL.

3.16 PROTECTION

Settlement or washing that occurs in graded, topsoiled, or backfilled areas

prior to acceptance of the work, shall be repaired and grades reestablished to the required elevations and slopes.

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SECTION 02388

STONE PROTECTION (RIPRAP)

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.

CORPS OF ENGINEERS (COE)

EM 1110-2-1601	(1994) Hydraulic Design of Flood Control Channels

1.2 SUBMITTALS

Government approval is required for all submittals with a "G" designation; submittals not having a 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

Material Sources; G, GT

The Contractor shall designate in writing only one source or one combination of sources from which he proposes to furnish stone. The Contractor shall state in writing methods of processing and handling riprap, and shall notify the Contracting Officer when production methods are changed.

SD-06 Test Reports

Gradation Test;

Gradation Test Results for riprap. Riprap gradation testing results shall be submitted on the WORKSHEET FOR GRADATION ANALYSIS OF RIPRAP and the gradation curve (Form 4055). A blank copy of each form is included at the end of this section.

SD-07 Certificates

Certified Weight Scale Tickets;

Copies of all certified weight scale tickets shall be furnished to the Contracting Officer at a frequency as directed. The tickets do not need to be formally submitted through the submittal process.

PART 2 PRODUCTS

2.1 STONE SOURCES AND EVALUATION

Stone materials may be quarried rock or durable fieldstone and shall be produced or obtained from the sources listed in Section 00830 ATTACHMENTS. If the Contractor proposes to furnish materials from a source not listed, the Government Geologist will make such investigations and evaluations as necessary to determine whether or not materials with acceptable durability can be produced from the proposed source. The rock supplied shall be composed of a quality fieldstone or be quarried from one rock formation to provide a product of uniform appearance. The Contractor shall not supply rock from various formations, or mix field stone with quarried rock, unless approved by the Contracting Officer. 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 the scheduled progress of the work.

2.1.1 Alternate Sources

If the Contractor proposes to furnish stone materials from a source not listed in Section 00830 ATTACHMENTS, the Government Geologist will make such investigations and evaluations as necessary to determine whether or not materials meeting the requirements specified can be produced from the proposed source. Alternate sources from which the Contractor proposes to obtain stone materials shall be selected and submitted for approval at least 30 days in advance of the time when the material will be required.

2.1.2 Acceptance of Materials

Acceptance of a source of stone is not to be construed as acceptance of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. The Contracting Officer also reserves the right to reject individual units of produced specified materials in stockpiles at the quarry, all transfer points, and at the project construction site when such materials are determined to be unsuitable.

2.2 RIPRAP

Riprap gradation shall meet the requirements for R20 riprap indicated on the attached FORM 4055 and EM 1110-2-1601, Table 3-1A. The stone shall be well graded within the limits specified.

2.2.1 General

All stone shall be durable material. Stone for riprap shall have a specific gravity between 2.55 and 2.75 unless approved by the Contracting Officer. Stone shall be of a suitable quality to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, blast fractures, bedding, seams and other defects that would tend to increase its deterioration from natural causes. The stone shall be clean and reasonably free from soil, quarry fines, and shall contain no refuse. Any foreign material adhering to or combined with the stone as a result of stockpiling shall be removed prior to placement. Neither the breadth nor the thickness of any piece of stone shall be less than one-third of it's length. Occasional pieces of stone slightly larger than the maximum weight will be permitted provided the gradation and voids are

not unduly affected and that surface tolerances are met.

2.2.2 Production

Riprap shall be handled and selectively loaded onto trucks in a manner to avoid segregation and provide a distribution of stone sizes consistent with the gradation band and test samples. Each truckload shall be representative of the gradation requirements.

2.3 SOURCE QUALITY CONTROL

Sampling and testing shall be performed by and at the expense of the Contractor at no additional cost to the Government. Gradation tests shall be performed by either Method A or B at the frequency listed below. A satisfactory gradation test shall be obtained prior to any hauling and delivery of materials. All tests, including failing tests shall be submitted. Tests performed on material which do not meet gradation and shape requirements will not be counted as part of the tests required. The Contracting Officer shall be informed immediately of test results and draft copies of test results shall be furnished at the Contracting Officers request.

2.3.1 Sampling Requirements

The Contracting Officer shall direct the time and location of sampling, unless waived. Samples shall be taken from stockpiles or loaded trucks, and not directly from conveyers or chutes.

2.3.2 Riprap Gradation Testing

a. Notification. The Contracting Officer shall be informed 24 hours before each riprap test.

b. Testing Frequency. At least 1 gradation test shall be performed per source prior to delivery to the project site. Perform 1 test of riprap stockpiled or delivered to the project site.

c. Sample Size. The sample shall have a minimum gross weight not less than 25 times the maximum stone size in the specified gradation (25 * W_{100}).

2.3.2.1 Riprap Test Method A

Test method A shall consist of weighing all stones larger than 5 pounds in a sample. Five to seven weight classes shall be selected within the range of stone sizes. Each stone shall be weighed and recorded on the work sheet for method A. The weight of stones shall be summed for each weight class; after which calculations and a plot of the gradation shall be completed in accordance with accepted practice for soil and aggregate gradations.

2.3.2.2 Riprap Test Method B

Test method B shall consist of separating the stones into 5 to 7 piles, ordered by size. The sample shall be separated on a clean, hard surface that is free of smaller stones that could become mixed with the sample. The stones shall be visually screened to place them into appropriate piles. All stones shall be separated and placed into a pile before weighing. After separating, the smallest and largest rock in each pile shall be weighed and recorded. The stones shall be adjusted as necessary so that the weight

classes do not overlap. After adjustment is adequate and weight classes have been established, each pile of stone shall be weighed and recorded on the work sheet for method B. Calculations and a plot of the gradation shall be completed in accordance with accepted practice for soil and aggregate gradations.

2.4 STOCKPILES

Stockpiles shall be formed by a series of layers or truckload dumps, where the rock essentially remains where it is placed. Subsequent layers shall be started 10 feet from the edge of the previous layer so that the rock will not roll down the edges of the pile. Any stone which has become contaminated with soil or refuse shall not be put into the work unless the contaminating material has been removed prior to placement.

PART 3 EXECUTION

3.1 CONSTRUCTION TOLERANCES

Work shall generally meet the required elevations, slope and grade; and the outer surfaces shall be even and present a neat appearance.

a. Subgrades. Areas on which stone protection will be placed shall be graded and/or dressed to conform to cross sections shown on the contract drawings within 2 inches above or below the neat lines. The surface shall be reasonably smooth to match tolerances normally obtained by rough grading with bladed equipment. For subaqueous construction in greater than 3 feet of water, the tolerance shall be 6 inches.

b. Layer Thickness. Any layers found to be less than 80% of the specified thickness shall be corrected. This tolerance shall only be exceeded on isolated spot checks, and if the tolerance is commonly exceeded, the Contractor shall change his construction methods to improve the quality control. If it is necessary to estimate riprap quantities for changes, the volume shall be based on neat line dimensions and the plan dimension for thickness. A conversion factor of 1.5 tons/CY shall be used to determine quantity requirements, unless otherwise directed by the Contracting Officer.

c. Surface Tolerances. The finished surface tolerance above the neat line shall generally not deviate from the lines and grades shown by more than half (1/2) the average stone dimension of the gradation range. Riprap that has a rough and uneven surface shall be reworked by hand to stabilize stones that wobble and are out of tolerance, except where the Contracting Officer approves use of equipment. Rearranging of individual stones shall be required to the extent necessary to obtain a well-graded distribution of stone sizes.

3.2 FOUNDATION PREPARATION

Foundation areas shall be excavated or filled to the lines and grades shown. Filling shall be with earth similar to the adjacent material and shall be well compacted. Immediately prior to placing riprap, the prepared subgrade will be inspected by the Contracting Officer unless waived; and no material shall be placed thereon until that area has been approved.

3.3 PLACEMENT OF RIPRAP

3.3.1 Layer Requirements

Riprap shall be placed in a manner which will produce a well-graded mass of rock with the minimum practicable percentage of voids. The large stones shall be well distributed. The finished riprap shall be free from objectionable pockets of small stones and clusters of larger stones.

3.3.2 Construction Methods

Unsegregated stone shall be placed in a systematic manner. Riprap shall be placed to its full course thickness in one operation and in such manner as to avoid displacing underlying material. Placement shall typically begin at the bottom of the area to be covered and continue up slope. Subsequent loads of material shall be placed against previously placed material in such a manner as to ensure a relatively homogenous mass. Final finish of slope shall be performed as the material is placed. Placing riprap in layers will not be permitted. Placing riprap by dumping it into chutes, or by any method likely to cause segregation of the various sizes, shall not be permitted. Placing riprap by dumping it at the top of the slope and pushing it down the slope shall not be permitted. No equipment shall be operated directly on the completed stone protection system. Dump trucks shall be equipped with bottom hinged tailgates if rock is directly placed into position with the trucks.

3.4 MAINTENANCE

The Contractor shall maintain the stone protection and underlying works until accepted by the Contracting Officer. When appropriate, the Contractor shall place stone protection in a timely manner to reduce risk of scour. Any material displaced prior to acceptance and due to the Contractor's negligence or neglect shall be replaced at the Contractor's expense.

3.5 CONTRACTOR QUALITY CONTROL

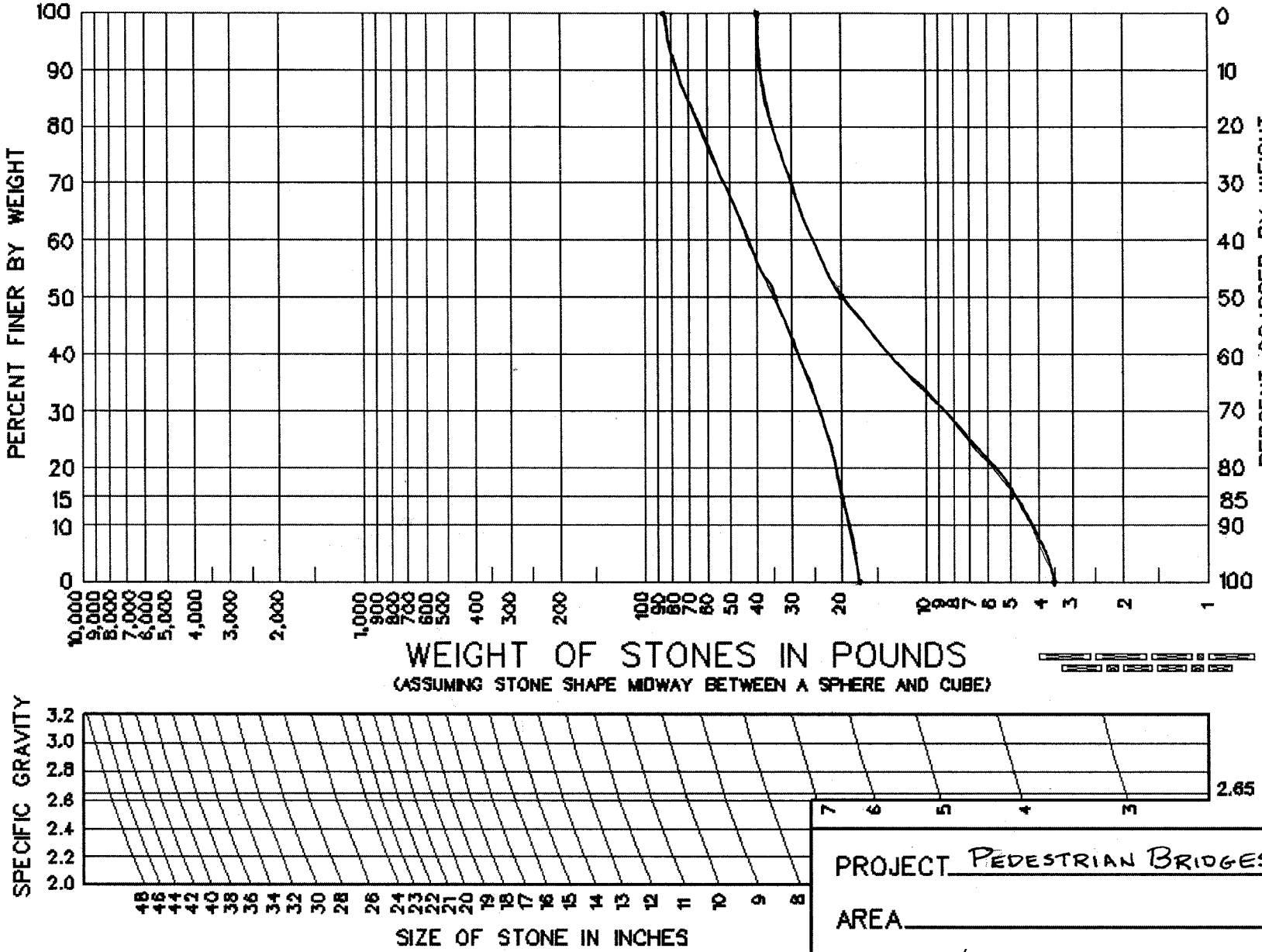
The Contractor shall establish and maintain quality control for all work performed at the job site under this section to assure compliance with contract requirements. He shall maintain records of his quality control tests, inspections and corrective actions. Quality control measures shall cover all construction operations including, but not limited to, the placement of all materials to the slope and grade lines shown and in accordance with this section.

In addition to the Contractor's system to establish and maintain quality control for stone placement operations, the following information shall be recorded and promptly provided to the Contracting Officer on request:

a. Record tonnage of stone placed in completed sections of the work and check quantity for compliance with design sections.

b. Check for uniform thickness of material layers.

-- End of Section --



SPECIFIC GRAVITY OF STONE - 2.65

TYPE R20 GRADATION (18" THICKNESS, 12" GRADATION)

ENGR FORM 4055 DATE OF FORM: MAY 1998

PROJECT PEDESTRIAN BRIDGES

AREA

DATE NOVEMBER 4, 2003

RIPRAP/ROCKFILL GRADATION CURVE

02388-Attachment

TABLE 3-1A
STANDARD RIPRAP GRADATIONS, LOW OR HIGH TURBULENCE ZONES

ID[1]	D_{100}(max)[2] [INCHES]	Limits of Stone Weight [pounds], for Percent Lighter by Weight: 100 MAX	100 MIN	50 MAX	50 MIN	15 MAX	15 MIN	5[3] MAX	5[3] MIN
Specific weight = 155pcf[4]									
	12.4	90	40	40	20	20	5		
	14.4	140	60	60	30	30	10		
	16.2	200	80	80	40	40	10		
	20.4	400	160	160	80	80	30		
	24.0	650	260	280	130	130	40		
	27.7	1000	400	430	200	210	60		
	31.7	1500	600	650	300	330	100		
Specific weight = 165pcf[5]									
R20	11.9	85	40	35	20	20	5	15	2
R30	14.1	140	60	60	30	30	10	25	5
R45	16.0	205	90	85	45	40	15	35	8
R80	20.0	400	160	170	80	80	25	65	15
R140	24.0	690	280	290	140	150	45	130	25
R270	30.0	1350	550	570	270	260	85	220	50

Notes:
1. The identifier (ID) designates Riprap gradation, and the approximate W_{50}(min) size in pounds.
2. Relationship between diameter and weight is based on the shape of a sphere.
3. Optional control of gradation.
4. Stone weight limit data from EM 1110-2-1601 (1 Jul 91), Appendix F, Table 6. Table 6 was developed by the Lower Mississippi Valley Division (LMVD) and was unintentionally omitted from the Engineering Manual.
5. Stone weight limit data developed by ED-GH branch for CENCS based on LMVD procedure.

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP
METHOD A

Project Name:	Date:
Riprap Type:	Test No.
Source, Quarry, or Pit:	
Sample Location:	Test Made By:

Part 1. Weigh all stones larger than 5 pounds and record.

(1) PASSING WT.							5 lbs.
(2) RETAINED WT.						5 lbs.	PAN
(3) -------							-------
-------							-------
-------							-------
-------							-------
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-------							-------
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(4) TOTALS							

Rows (1) & (2) Enter 5 to 7 weight classes to yield approx. 75%, 50%, 30%, and 15% finer points.

Row (3) List weight of each stone. Attach additional sheets if necessary.

Row (4) Add all individual stone weights listed in each column.

Part 2. Summary Table.

(5) WEIGHT CLASSES		(6)	(7)	(8)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)	TOTAL WEIGHT EACH CLASS (lbs.)	CUMMULATIVE WEIGHT PASSING (lbs.)	TOTAL PERCENT PASSING (%)
	5 lbs.			
5 lbs.	PAN			
SAMPLE TOTAL			--------	--------

Column (5) Enter same weight classes used in Rows (1) and (2).

Column (6) Enter weights of material from Row (4)

Column (7) Add column (6) from bottom up to get cumulative weight passing.

Column (8) Divide column (7) by sample total to get total percent passing.

WORK SHEET FOR GRADATION ANALYSIS OF RIPRAP
METHOD B

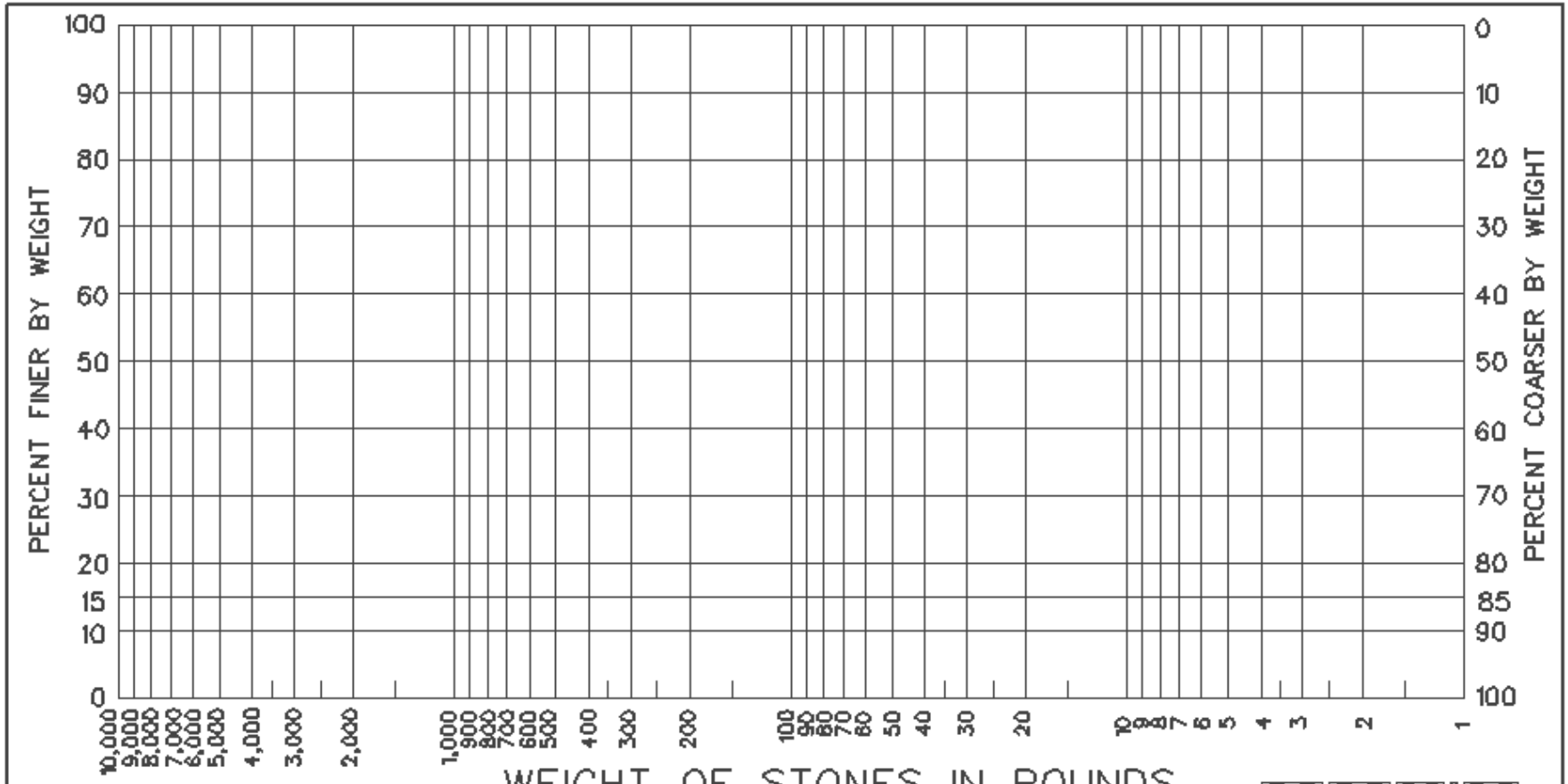
Project Name:	Date:
Riprap Type:	Test No.
Source, Quarry, or Pit:	
Sample Location:	Test Made By:

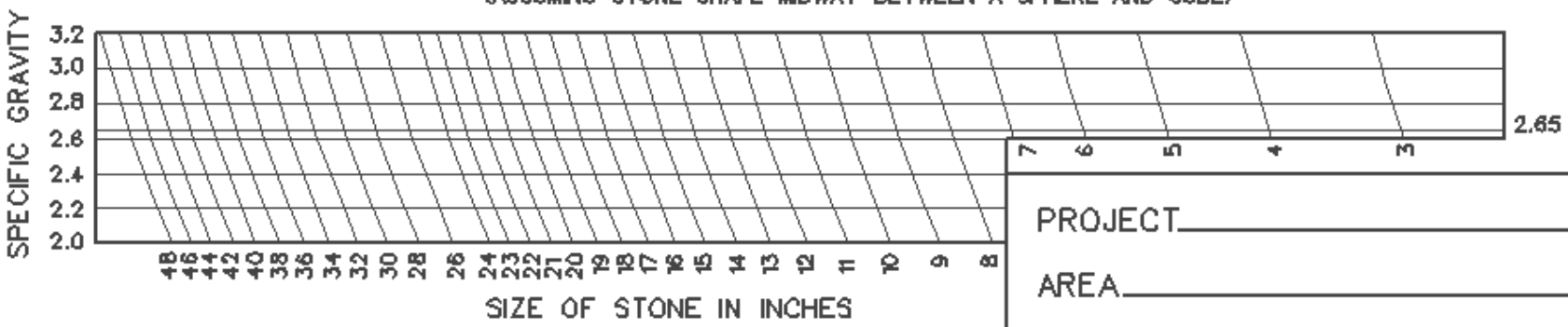
Part 1. Separate rock into 5 to 7 piles, ordered by size. The largest pile should contain 2 to 5 stones. Intermediate piles between the largest stones and those smaller than 5 pounds should be approximately equal in total weight. Separate all stones before weighing.

Part 2. Summary Table.

(1) WEIGHT CLASSES		(2)	(3)	(4)
PASSING (stone wt. in lbs.)	RETAINED (stone wt. in lbs.)	TOTAL WEIGHT EACH CLASS (lbs.)	CUMMULATIVE WEIGHT PASSING (lbs.)	TOTAL PERCENT PASSING (%)
	5 lbs.			
5 lbs.	PAN			
SAMPLE TOTAL			--------	--------

Column (1) Weight the smallest and largest stone in each pile. If weight classes overlap, adjust stones as necessary and repeat.
Column (2) Weigh the total amount of rock in each pile and record.
Column (3) Add column (2) from bottom up to get cumulative weight passing.
Column (4) Divide column (3) by sample total to get total percent passing.





SPECIFIC GRAVITY OF STONE = [ ]

PROJECT _____

AREA _____

DATE _____

RIPRAP/ROCKFILL GRADATION CURVE

ENGR FORM 4055 DATE OF FORM: MAY 1998

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DIVISION 02 - SITE CONSTRUCTION

SECTION 02463

STEEL H-PILES FOR CIVIL WORKS

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-- End of Section Table of Contents --

SECTION 02463

STEEL H-PILES FOR CIVIL WORKS

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	(2000) Carbon Structural Steel
ASTM D 41	(1994, 2000) Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
ASTM D 2521	(1976, R 2002) Specification for Asphalt Used in Canal, Ditch, and Pond Lining.
ASTM D 4945	(2000) Method for High-Strain Dynamic Testing of Piles

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2452	Standard Specifications for Construction (2000 Edition), Piling
MNDOT 2471	Standard Specifications for Construction (2000 Edition), Structural Metals

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-02 Shop Drawings

Pile Splices; G, STR

Submit detail drawings of pile splices prior to fabrication.

Pile Placement; G, STR

Submit pile placement plan at least 30 days prior to delivery of piles to the job site.

Pile Driving Records;

Submit pile driving records daily.

SD-03 Product Data

Pile and Driving Equipment; G, STR

Submit descriptions of piles and pile driving equipment at least 30 days prior to commencement of work. Use the attached "Pile and Driving Equipment Data" form.

Pile Driving Records; G, STR

Submit the proposed form for compiling pile driving records 30 days prior to commencement of work.

Delivery, Storage, and Handling; G, STR

Submit delivery, storage, and handling plans for piles at least 30 days prior to delivery of piles to the job site.

Wave Equation Analysis;

Submit wave equation analysis of the proposed driving system and summary report of the wave equation results at least 30 days prior to commencing work.

SD-06 Test Reports

Dynamic Testing of Piles;

Submit hand written daily field reports summarizing the dynamic testing results within one (1) day of initial driving (and any restrike pile testing). Submit formal report summarizing the dynamic testing results for an individual bridge no later than ten (10) working days after completion of dynamic testing for the bridge.

1.3 DELIVERY, STORAGE, AND HANDLING

Delivery, storage, and handling of materials shall conform to the requirements specified herein. Plans for the delivery, storage, and handling of piles shall be developed and submitted in accordance with paragraph SUBMITTALS.

1.3.1 Delivery and Storage

Piles shall be stacked during delivery and storage so that each pile is maintained in a straight position and is supported every 10 feet or less along its length (ends inclusive) to prevent exceeding the maximum camber or sweep. Piles shall not be stacked more than 5 feet high. Bitumen coated piles shall be stored immediately after the coating is applied for protection from sunlight and heat. Pile coatings shall not be exposed to damage or contamination during delivery and storage.

1.3.2 Handling

Piles shall be lifted using a cradle or multiple points pick-up to ensure that the maximum permissible camber or sweep is not exceeded due to insufficient support, except that a one-point pick-up may be used for lifting piles that are not extremely long into the driving leads. Point

pick-up devices shall be of the type that clamp to both pile flanges at each pick-up point. Holes may be burned in the flanges or webs of piles above the cutoff length for lifting piles into the leads. Piles shall not be dragged across the ground. The coating of bitumen coated piles shall not be exposed to damage or contamination during handling. Once the bitumen coating has been applied, Contractor will not be allowed to drag the piles on the ground or to use cable wraps around the pile during handling. Pad eyes, or other suitable devices, shall be attached to the pile to be used for lifting and handling. If necessary, Contractor shall recoat the piles, at his expense to comply with these requirements. The Contractor shall inspect piles for excessive camber and sweep and for damages before transporting them from the storage area to the driving area and immediately prior to placement in the driving leads. Camber, curvature in the pile in the direction normal to the pile flanges, shall be measured with the pile flange base laying on a flat surface and shall be the distance between the flange base at the mid-length of the pile and the flat surface. Sweep, curvature in the pile in the direction parallel to the pile flanges, shall be measured with the pile flange tips laying on a flat surface and shall be the distance between the flange tips at the mid-length of the pile and the flat surface. The maximum permissible camber and sweep shall be 2 inches over the length of the pile. Piles having excessive camber or sweep will be rejected.

PART 2 PRODUCTS

2.1 MATERIALS

Materials shall conform to the requirements shown and as specified herein.

2.1.1 Steel

Steel for H-piles and splice plates shall conform to ASTM A 36.

2.1.2 H-Piles

H-piles shall be of the shape and sections shown and shall have standard square ends unless otherwise directed. Lengths of piles shall be determined as specified in paragraph INSTALLATION, subparagraph LENGTHS OF PERMANENT PILES.

2.1.3 Pile Splices

Materials for pile splices shall be as shown.

2.1.4 Primer

Primer shall conform to the requirements of ASTM D 41.

2.1.5 Bituminous Coating

Canal liner bitumen complying with ASTM D 2521 shall be used for the bitumen coating and shall have a softening point of 190 to 200 deg F, a penetration of 56% to 61% of the original sample at 77 deg F, and a ductility at 77 deg F in excess of 1 3/8 inch.

2.2 FABRICATION

Fabrication shall conform to the requirements shown and as specified herein.

2.2.1 Pile Splices

Pile splices shall be fabricated as shown. Detail drawings of splices shall be submitted in accordance with paragraph SUBMITTALS. Welding shall be governed by MNDOT 2471, subsection 3F, and the welders shall have been qualified as prescribed therein.

2.3 SHOP COATING OF STEEL PILES

Apply one shop coat of primer and one shop coat of bituminous coating to steel piles where shown on the plans. A nominal length of pipe shall be left uncoated where field splices are required.

2.3.1 Preparation

All surfaces to be coated with bitumen shall be dry and thoroughly cleaned of dust and loose materials. No primer or bitumen shall be applied in wet weather, not when the temperature is below 65 deg F.

2.3.2 Primer Application

Application of the prime coat shall be with a brush or other approved means and in a manner to thoroughly coat the surface of the piling with a continuous film of primer. The purpose of the primer is to provide a suitable bond of the bitumen coating to the pile. The primer shall set thoroughly before the bitumen coating is applied.

2.3.3 Bituminous Application

The bitumen should be heated to 300 deg F, and applied at a temperature between 200 and 300 deg. F, by one or more mop coats, or other approved means, to apply an average coating depth of 3/8 inch. Whitewashing of the coating may be required, as deemed necessary by the Contracting Officer, to prevent running and sagging of the asphalt coating prior to driving, during hot weather.

PART 3 EXECUTION

3.1 PILE DRIVING EQUIPMENT

Select the proposed pile driving equipment, including hammers and other required items, and submit complete descriptions of the proposed equipment in accordance with paragraph SUBMITTALS. Final approval of the proposed equipment is subject to the satisfactory completion and approval of pile tests. Changes in the selected pile driving equipment will not be allowed after the equipment has been approved except as directed. No additional contract time will be allowed for Contractor proposed changes in the equipment.

3.1.1 Pile Driving Hammers

Pile driving hammers shall be of the impact type.

3.1.1.1 Impact Hammers

Impact hammers shall be steam, air, or diesel hammers of the single acting, double-acting, or differential acting type. The size or capacity of hammers shall be as recommended by the manufacturer for the pile weight and soil formation to be penetrated. The rated energy of hammers shall be

limited to a minimum of 12,500 foot-pounds. Boiler, compressor, or engine capacity shall be sufficient to operate hammers continuously at the full rated speed. Hammers shall have a gage to monitor hammer bounce chamber pressure for diesel hammers or pressure at the hammer for air and steam hammers. This gage shall be operational during the driving of piles and shall be mounted in an accessible location for monitoring by the Contractor and the Contracting Officer. In accordance with paragraph SUBMITTALS, submit the following information for each impact hammer proposed:

a. Make and model.

b. Ram weight (pounds).

c. Anvil weight (pounds).

d. Rated stroke (inches).

e. Rated energy range (foot-pounds).

f. Rated speed (blows per minute).

g. Steam or air pressure, hammer, and boiler or compressor (psi).

3.1.2 Pile Driving Leads

Hammers shall be supported and guided with fixed extended leads or fixed underhung leads. Two intermediate supports for the pile in the leads shall be provided to reduce the unbraced length of the pile during driving.

3.2 INSTALLATION

3.2.1 Lengths of Permanent Piles

The estimated quantities of piles listed in the unit price schedule are given for bidding purposes only. The Contracting Officer will determine the actual lengths of piles required to be driven below cutoff elevation for the various locations in the work and will furnish the Contractor a quantities list indicating lengths and locations of all piles to be installed. These actual lengths will be determined from the results of the pile tests specified in paragraph PILE TESTS. The Contracting Officer will determine the number of overlength piles required to provide for variations in subsurface conditions. Where required bearings capacities are attainable with piles of lesser length than those specified, shorter piles may be used subject to prior written approval.

3.2.2 Pile Driving Records

Develop a form for compiling pile driving records which must be approved. Complete and accurate records of the pile driving operations shall be compiled on the approved form and submitted in accordance with paragraph SUBMITTALS. Driving records for each pile shall include date driven, pile identification number, pile dimensions, location, top elevation, tip elevation, description of hammer used, number of blows required for each foot of penetration throughout the entire length of the pile and for each inch of penetration in the last foot of penetration, total driving time in minutes and seconds, and any other pertinent information as required or requested such as unusual driving conditions, interruptions or delays during driving, damage to pile resulting from driving, heave in adjacent piles, and depth and description of voids formed adjacent to the pile.

Additional data required to be recorded for impact hammers include the rate of hammer operation and the length of the bounce hose.

3.2.3 Pile Placement

A pile placement plan which shows the installation sequence and the methods proposed for controlling the location and alignment of piles shall be developed and submitted in accordance with paragraph SUBMITTALS. Foundation preparation, removal of unsuitable material, and densification of foundation fill shall be completed in the area prior to the placement of piles for driving. At least one test pile shall be completed before proceeding with any other pile driving. Piles shall be placed accurately in the correct location and alignments, both laterally and longitudinally, and to the vertical lines indicated. The Contractor shall establish a permanent base line to provide for inspection of pile placement by the Contracting Officer during pile driving operations. The base line shall be established prior to driving permanent piles and shall be maintained during the installation of the permanent piles. A final lateral deviation from the correct location at the cutoff elevation of not more than 3 inches will be permitted for vertical piles. A final variation in alignment of not more then 1/4 ipf of longitudinal axis will be permitted. A final variation in rotation of the pile about the center line of the web of not more than 7.5 degrees will be permitted. A vertical deviation of not more than 1 inch from the correct cut off elevations shown will be permitted. The correct relative position of all piles shall be maintained by the use of templates or by other approved means. Piles not located properly or exceeding the maximum limits for rotation, lateral deviation, and variation in alignment shall be pulled and redriven at the location directed at no additional cost to the Government. The use of followers or preboring holes at pile locations will not be allowed.

3.2.4 Pile Penetration Criteria

The controlling depth of penetration or refusal blow count (number of blows required to attain the final inch of penetration) for permanent piles will be determined by the Contracting Officer. The required depth of penetration or refusal blow count will be established subsequent to the analysis of pile tests as specified in paragraph PILE TESTS.

3.2.5 Pile Driving

The Contracting Officer shall be notified 30 days prior to the date pile driving is to begin. Piles shall not be driven within 100 feet of concrete less than 7 days old. Permanent and test piles shall be driven with hammers of the same model and manufacturer, same energy and efficiency, and using the same driving system. Hammers shall be operated at all times at the speed and under the conditions recommended by the manufacturer. Where heave is anticipated, the sequence of installation shall be such that pile heave is minimized by starting pile driving at the center of the group and proceeding outward. Prior to driving and with the pile head seated in the hammer, each pile shall be checked to ensure that it has been aligned correctly and that the orientation of the web about the centerline is as shown. Once pile driving has begun, conditions such as alignment shall be kept constant. Each pile shall be driven continuously and without interruption until the required depth of penetration or refusal blow count has been attained. Deviation from this procedure will be permitted only when driving is stopped by causes that reasonably could not have been anticipated. A pile that can not be driven to the required depth because of an obstruction, as indicated by a sudden unexplained change in blow

count and drifting, shall be pulled and redriven or shall be cut off and abandoned, whichever is directed. After piles are driven, they shall be cutoff square as required at the indicated cutoff elevation. Any voids around piles or abandoned holes for pulled piles shall be backfilled and densified to the same density as the surrounding soil.

3.2.5.1 Splicing Piles

A pile that has not reached the required refusal blow count when the top has been driven to the top elevation shall be spliced as shown and driven to a sufficient depth to develop the required refusal blow count. After completing the field splice for bitumen coated piles as shown on the plan, the splice area shall be brush or mop coated with at least one coat of bitumen.

3.2.5.2 Jetting

Jetting of piles will not be permitted.

3.2.5.3 Heaved Piles

When driving piles in clusters or under conditions of relatively close spacing, observations shall be made to detect heave of adjacent piles. Heaved piles shall be backdriven to original depth of penetration or refusal blow count without additional cost to the Government.

3.2.5.4 Pulled Piles

Piles damaged or impaired for use during driving shall be pulled and replaced with new piles, or shall be cut off and abandoned and new piles driven as directed without additional cost to the Government. The Contracting Officer may require that any pile be pulled for inspection. Piles pulled as directed and found to be in suitable condition shall be redriven at another location as directed. Piles pulled as directed and found to be damaged shall be replaced by new piles at the Contractor's expense.

3.2.5.5 Driving Underwater

Piles driven underwater shall comply with the requirements of MNDOT 2452, subsection 3D.

3.3 PILE TESTS

Pile driving tests shall be performed as specified and as shown or as directed. The Contracting Officer will develop the correlation between pile driving resistance or pile length and pile capacity during the pile driving tests for the selected pile driving system. Based on the correlations developed, the Contracting Officer will determine the refusal blow count or pile length for the permanent piles. Changes in the approved pile driving system during or after completion of tests will not be allowed unless additional tests are performed as directed to establish the correlation between driving resistance or length and pile capacity for the proposed changed system. For changes in the approved pile driving system proposed by the Contractor, required additional pile driving tests shall be performed at the Contractor's expense and no additional contract time will be allowed.

3.3.1 Dynamic Testing of Piles

Dynamic testing of a pile involves attaching at least two strain transducers and two accelerometers to the pile near the pile head during initial driving or at a convenient location during restrike testing. A cable connects the gages near the pile head with the Pile Driving Analyzer located a safe distance from the pile, but not more than 330 ft from the pile. The Contractor shall secure the services of a Dynamic Testing Consultant. Dynamic testing shall be performed on test piles listed in the tables below, and as located on the plans. The test pile shall be the first pile driven in a pile group. Dynamic testing shall be completed during the final 20-feet of initial driving to the estimated pile tip elevation indicated on the drawings. If the ultimate capacity listed in the tables below is not achieved upon initial driving when the pile tip is within plus or minus 5-feet of the estimated pile tip elevation, the Contractor shall restrike the test pile. When restrike testing is required, the restrike shall not commence until a minimum of 5 days after initial driving to allow for soil setup.

Number of Test Piles for Dynamic Testing - North Bridge

Location	Initial Driving	Required Ultimate Pile Capacity, Q_u (kips)
West Abutment		200
Pier 1	1	325
Pier 2		350
Pier 3	1	350
Pier 4	1	350
Pier 5		325
East Abutment	1	200

Number of Test Piles for Dynamic Testing - South Bridge

Location	Initial Driving	Required Ultimate Pile Capacity, Q_u (kips)
West Abutment	1	225
Pier 1		325
Pier 2	1	325
Pier 3	1	350
Pier 4	1	350
Pier 5		325
East Abutment		225

3.3.1.1 Equipment and Personnel

All equipment necessary for the dynamic monitoring such as gages, cables, etc., shall be furnished by the Dynamic Testing Consultant. The equipment shall conform to the requirements of ASTM D 4945. An engineer with a minimum 5 years of dynamic pile testing experience or who has achieved the Advanced Level or better on the Foundation QA Examination for Providers of Dynamic Pile Testing Services shall be in charge of equipment operation and of result interpretation. To prepare the pile for transducer attachment, either a generator or a DC drill of sufficient power shall be available.

3.3.1.2 Preconstruction Wave Equation Analyses

The Contractor shall submit the pile and driving equipment data form in

accordance with paragraph SUBMITTALS. The Dynamic Testing Consultant shall use the submitted information to perform wave equation analyses and shall prepare a summary report of the wave equation results. The wave equation analyses shall be used to assess the ability of the proposed driving system to install the pile to the required capacity and desired penetration depth within the allowable driving stresses. Approval of the proposed driving system by the Contracting Officer shall be based upon the wave equation analyses indicating that the proposed driving system can develop an ultimate pile capacity of at least 350 kips at a driving resistance not greater than 20 blows per inch within allowable driving stress limits. The hammer should also be sized such that the penetration per blow at the required ultimate capacity does not exceed 0.5 inches. A new pile driving system, modifications to existing system, or new pile installation procedures shall be proposed by the Contractor if the pile installation stresses predicted by wave equation analysis or calculated by the Pile Driving Analyzer measurements exceed the following maximum values:

Compression Stresses - $0.9F_y$

Tension Stresses - $0.9F_y$

Where F_y = Minimum Steel Yield Strength (psi)

3.3.1.3 Gage Attachment

Prior to lifting the pile to be dynamically tested, the Contractor shall provide a minimum of 3 ft of clear access to 180 degree opposite faces of the pile for pile preparation. The Dynamic Testing Consultant or the Contractor's personnel shall then drill and prepare holes for gage attachment. The Contractor's personnel shall attach the gages to the pile after the pile has been driven to the penetration depths identified in paragraph Dynamic Testing of Piles. Driving shall then continue using routine pile installation procedures. When the level of the gages is within 1 ft of any obstruction endangering the survival of sensors or cables, driving shall be halted to remove the gages from the pile. If additional driving is required, the obstruction shall be removed or the pile shall be spliced and the gages shall be reattached to the head of the next pile segment prior to the resumption of driving.

3.3.1.4 Pile Testing

Dynamic pile testing shall be performed on a total of 8 piles during initial driving (and when required during restrike) over the duration of the production pile installation. The frequency and purposes of the dynamic testing shall be as defined in paragraph Dynamic Testing of Piles. The restrike driving sequence shall be performed with a warmed up hammer and shall consist of striking the piles for 50 blows or until the pile penetrates an additional three inches, whichever occurs first. In the event the pile movement is less than 1/4 inch during the restrike at satisfactory hammer energy output, the restrike may be terminated after 20 blows. The Contracting Officer may request additional piles to be dynamically tested if the hammer and/or driving system is replaced or modified, the pile type or installation procedures are modified, the pile capacity requirements are changed, unusual blow counts or penetrations are observed on any other piling behavior differ from normal installation.

3.3.1.5 Dynamic Testing Reports

The Dynamic Testing Consultant shall prepare a hand written daily field

report summarizing the dynamic testing results and submit the report in accordance with paragraph SUBMITTALS. As a minimum, the daily reports shall include the calculated driving stresses, transferred energy, and estimated pile capacity at the time of testing. Variations from previous trends in the dynamic test data shall also be noted. CAPWAP analyses of the dynamic pile testing data shall be performed on data obtained from the beginning of restrike. CAPWAP analyses shall be performed by an engineer who has achieved Advanced Level or better on the Foundation QA Examination for Providers of Dynamic Pile Testing Services. The Contracting Officer may request additional analyses at selected pile penetration depths. Upon completion of the dynamic testing for an individual bridge, the Dynamic Testing Consultant shall prepare a formal report summarizing the dynamic testing results. This report shall include a discussion of the pile capacity obtained from the dynamic testing. The report shall also discuss hammer and driving system performance, driving stress levels, and pile integrity. This report shall be submitted in accordance with paragraph SUBMITTALS.

-- End of Section --

Sheet # _____

Pile and Driving Equipment Data

Project No: _____

Project Name: _____ County: _____

Drawing No: _____

General Contractor: _____

Pile Driving Contractor/Subcontractor: _____

Phone: _____ FAX: _____

(Piles driven by, foreman): _____

Date Submitted: _____

Hammer Components		**Hammer**	Manufacturer: _____ Model: _____ Type: _____ Serial No: _____ Manufacturer's Maximum Rated Energy: _____(ft-lb) Stroke at Maximum Rated Energy: _____(ft) Range in Operating Energy: ____ to ____(ft-lb) Range in Operating Stroke: ____ to ____(ft) Modifications: _____ _____
		Ram	Ram Weight: _____ (lb) Ram Length: _____(ft) (for diesel hammers)
		Anvil	Ram Cross Sectional Area: _____(in^2) (With diesel hammers) Anvil Weight: _____(lb)
		Hammer Cushion	Material #1 / Material #2 Name: _____ _____ Area: _____ _____ (in^2) No. of Plates: _____ _____ Thickness: _____ _____ (in) Mod. of Elasticity - E: _____ _____ (psi) Coeff. of Restitution - e: _____ _____
		Pile Cap	Helmet Bonnet Anvil Block Weight: _____(lb) Drive Head
		Pile Cushion (Only for Concrete or Timber Piles)	Material: _____ Area: _____ (in^2) No. of Sheets: _____ Thickness/Sheet: _____ (in) Total Thickness of Pile Cushion: _____ (in) Mod. of Elasticity - E: _____ (psi) Coeff. of Restitution - e: _____
Pile		**Pile**	Diameter: _____ (in) Wall Thickness: _____ (in) Taper (if any): _____ Length in Leads: _____ (ft) Ordered Length: _____(ft) Required Ultimate Capacity: _____ (lb) Description of Splice: _____ Tip Treatment/Plate Description: _____

Use Separate Data Sheet for Each Proposed Hammer and Unique Driving Condition

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SECTION 02620

SUBDRAINAGE SYSTEM

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 2751	(1996a) Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
ASTM D 3034	(1998) Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D 3212	(1996a) Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM F 949	(2000) Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2502	Standard Specifications for Construction (2000 Edition), Subsurface Drains
MNDOT 3138	Standard Specifications for Construction (2000 Edition), Aggregates for Surface and Base Course
MNDOT 3733	Standard Specifications for Construction (2000 Edition), Geotextiles

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 Filter Fabric;
Pipe for Subdrains;

Certifications from the manufacturers attesting that materials meet specification requirements. Certificates are required for drain pipe, fittings, and filter fabric.

1.3 DELIVER, STORAGE, AND HANDLING

1.3.1 Delivery and Storage

Materials delivered to site shall be inspected for damage, unloaded, and stored with minimum handling. Materials shall not be stored directly on the ground. The inside of pipes and fittings shall be kept free of dirt and debris. During shipment and storage, filter fabric shall be wrapped in burlap or similar heavy duty protective covering. The storage area shall protect the fabric from mud, soil, dust, and debris. Filter fabric materials that are not to be installed immediately shall not be stored in direct sunlight. Plastic pipe shall be installed within 6 months from the date of manufacture unless otherwise approved.

1.3.2 Handling

Materials shall be handled in such a manner as to insure delivery to the trench in sound undamaged condition. Pipe shall be carried and not dragged to the trench.

PART 2 PRODUCTS

2.1 PIPE FOR SUBDRAINS

Pipe for subdrains shall be of the sizes indicated and shall be one of the materials specified in MNDOT 2502.

2.2 GEOTEXTILE FILTER FABRIC

Geotextile filter fabric shall comply with the requirements of MNDOT 3733 for Type I fabric.

2.3 SUBDRAIN FILTER MATERIAL

Subdrain filter material shall comply with the requirements of MNDOT 3138 for Class 5 aggregate.

PART 3 EXECUTION

3.1 EXCAVATION AND BEDDING FOR SUBDRAIN SYSTEMS

Trenching and excavation, shall be in accordance with Section 02300 EARTHWORK and Section 02315 EXCAVATION, FILLING AND BACKFILLING FOR STRUCTURES.

3.2 INSTALLATION OF FILTER FABRIC AND PIPE FOR SUBDRAINS

3.2.1 Installation of Filter Fabric

3.2.1.1 Trench Lining and Overlaps

Trenches to be lined with filter fabric shall be graded to obtain smooth side and bottom surfaces so that the fabric will not bridge cavities in the soil or be damaged by projecting rock. The fabric shall be laid flat but not stretched on the soil, and it shall be secured with anchor pins. Overlaps shall be at least 6 inches, and anchor pins shall be used along the overlaps.

3.2.2 Installation of Pipe for Subdrains

3.2.2.1 Pipelaying

Each pipe shall be carefully inspected before it is laid. Any defective or damaged pipe shall be rejected. No pipe shall be laid when the trench conditions or weather is unsuitable for such work. Water shall be removed from trenches by sump pumping or other approved methods. The pipe shall be laid to the grades and alignment as indicated. The pipe shall be bedded to the established gradeline. Perforations shall be centered on the bottom of the pipe. Pipes of the bell-and-spigot type shall be laid with the bell ends upstream. All pipes in place shall be approved before backfilling.

3.2.2.2 Jointings

a. Acrylonitrile-Butadiene-Styrene (ABS): Solvent cement or elastomeric joints for ABS pipe shall be in accordance with ASTM D 2751. Dimensions and tolerances shall be in accordance with TABLE II of ASTM D 2751.

b. Polyvinyl Chloride (PVC) Pipe: Joints shall be in accordance with the requirements of ASTM D 3034, ASTM D 3212, or ASTM F 949.

c. Perforated Corrugated Polyethylene Pipe: Perforated corrugated polyethylene drainage pipe shall be installed in accordance with the manufacturer's specifications and as specified herein. A pipe with physical imperfections shall not be installed. No more than 5 percent stretch in a section will be permitted.

3.3 INSTALLATION OF FILTER MATERIAL AND BACKFILLING FOR SUBDRAINS

After pipe for subdrains has been laid, inspected, and approved, filter material shall be placed around and over the pipe to the depth indicated. The filter material shall be placed in layers not to exceed 8 inches thick, and each layer shall be thoroughly compacted by mechanical tampers or rammers to obtain the required density. Compaction of filter material and the placement and compaction of overlying backfill material shall be in accordance with the applicable provisions specified in Section 02315 EXCAVATION, FILLING, AND BACKFILLING FOR STRUCTURES.

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SECTION 02630

CULVERTS

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 C 12	(1998el) Installing Vitrified Clay Pipe Lines
ASTM C 76	(1999) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C 270	(1997ael) Mortar for Unit Masonry
ASTM C 443	(1998) Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Placing Pipe;

Printed copies of the manufacturer's recommendations for installation procedures of the material being placed, prior to installation.

SD-07 Certificates

Pipe Certification;

Certified copies of test reports demonstrating conformance to applicable pipe specifications, before pipe is installed.

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery and Storage

Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. Materials shall not be stored directly

on the ground. The inside of pipes and fittings shall be kept free of dirt and debris. The Contractor shall have a copy of the manufacturer's instructions available at the construction site at all times and shall follow these instructions unless directed otherwise by the Contracting Officer.

1.3.2 Handling

Materials shall be handled in a manner that ensures delivery to the trench in sound, undamaged condition. Pipe shall be carried to the trench, not dragged.

PART 2 PRODUCTS

2.1 PIPE FOR CULVERTS

Pipe for culverts shall be of the sizes indicated and shall conform to the requirements specified.

2.1.1 Concrete Pipe

ASTM C 76, Class III unless otherwise indicated on drawings.

2.2 MISCELLANEOUS MATERIALS

2.2.1 Mortar

Mortar for pipe joints shall conform to ASTM C 270, Type M, except that the maximum placement time shall be 1 hour. The quantity of water in the mixture shall be sufficient to produce a stiff workable mortar. Water shall be clean and free of harmful acids, alkalies, and organic impurities. The mortar shall be used within 30 minutes after the ingredients are mixed with water. The inside of the joint shall be wiped clean and finished smooth. The mortar head on the outside shall be protected from air and sun with a proper covering until satisfactorily cured.

2.2.2 Flexible Watertight Joints

Flexible watertight joints shall be made with rubber-type gaskets for concrete pipe. The design of joints and the physical requirements for rubber-type gaskets shall conform to ASTM C 443. Gaskets shall have not more than one factory-fabricated splice.

PART 3 EXECUTION

3.1 EXCAVATION FOR PIPE CULVERTS

Excavation of trenches, and for appurtenances and backfilling for culverts shall be in accordance with the applicable portions of Section 02300 EARTHWORK, and the requirements specified below.

3.1.1 Trenching

The width of trenches at any point below the top of the pipe shall be not greater than the outside diameter of the pipe plus 24 inches to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe. Sheeting and bracing, where required, shall be placed within the trench width as specified. Contractor shall not overexcavate. Where trench widths are exceeded, redesign with a resultant increase in

cost of stronger pipe or special installation procedures will be necessary. Cost of this redesign and increased cost of pipe or installation shall be borne by the Contractor without additional cost to the Government.

3.1.2 Removal of Unstable Material

Where wet or otherwise unstable soil incapable of properly supporting the pipe, as determined by the Contracting Officer, is unexpectedly encountered in the bottom of a trench, such material shall be removed to the depth required and replaced to the proper grade with select granular material, compacted as provided in paragraph BACKFILLING. When removal of unstable material is due to the fault or neglect of the Contractor in his performance of shoring and sheeting, water removal, or other specified requirements, such removal and replacement shall be performed at no additional cost to the government.

3.2 BEDDING

The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe.

3.2.1 Concrete Pipe Requirements

ASTM C 12, Bedding Class B shall be used. Concrete pipe shall be bedded in Class B material accurately shaped and rounded to conform to the lowest one-half of the outside portion of circular pipe for the entire length of the pipe. The bedding shall be tamped. Bell holes and depressions for joints shall be not more than the length, depth, and width required for properly making the particular type of joint.

3.3 PLACING PIPE

Each pipe shall be thoroughly examined before being laid; defective or damaged pipe shall not be used. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections of pipe into trenches. Pipe shall not be laid in water, and pipe shall not be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary.

3.3.1 Concrete Pipe

Laying shall proceed upgrade with spigot ends of bell-and-spigot pipe and tongue ends of tongue-and-groove pipe pointing in the direction of the flow.

3.4 JOINTING

3.4.1 Concrete Pipe

Joints for concrete pipe shall be either mortar joints or flexible watertight joints at Contractor's option.

3.4.1.1 Cement-Mortar Bell-and-Spigot Joint

The first pipe shall be bedded to the established gradeline, with the bell end placed upstream. The interior surface of the bell shall be thoroughly cleaned with a wet brush and the lower portion of the bell filled with mortar as required to bring inner surfaces of abutting pipes flush and even. The spigot end of each subsequent pipe shall be cleaned with a wet

brush and uniformly matched into a bell so that sections are closely fitted. After each section is laid, the remainder of the joint shall be filled with mortar, and a bead shall be formed around the outside of the joint with sufficient additional mortar. If mortar is not sufficiently stiff to prevent appreciable slump before setting, the outside of the joint shall be wrapped or bandaged with cheesecloth to hold mortar in place.

3.4.1.2 Cement-Mortar Tongue-and-Groove Joint

The first pipe shall be bedded carefully to the established gradeline with the groove upstream. A shallow excavation shall be made underneath the pipe at the joint and filled with mortar to provide a bed for the pipe. The grooved end of the first pipe shall be thoroughly cleaned with a wet brush, and a layer of soft mortar applied to the lower half of the groove. The tongue of the second pipe shall be cleaned with a wet brush; while in horizontal position, a layer of soft mortar shall be applied to the upper half of the tongue. The tongue end of the second pipe shall be inserted in the grooved end of the first pipe until mortar is squeezed out on interior and exterior surfaces. Sufficient mortar shall be used to fill the joint completely and to form a bead on the outside.

3.4.1.3 Flexible Watertight Joints

Gaskets and jointing materials shall be as recommended by the particular manufacturer in regard to use of lubricants, cements, adhesives, and other special installation requirements. Surfaces to receive lubricants, cements, or adhesives shall be clean and dry. Gaskets and jointing materials shall be affixed to the pipe not more than 24 hours prior to the installation of the pipe, and shall be protected from the sun, blowing dust, and other deleterious agents at all times. Gaskets and jointing materials shall be inspected before installing the pipe; any loose or improperly affixed gaskets and jointing materials shall be removed and replaced. The pipe shall be aligned with the previously installed pipe, and the joint pushed home. If, while the joint is being made the gasket becomes visibly dislocated the pipe shall be removed and the joint remade.

3.5 BACKFILLING

3.5.1 Backfilling Pipe in Trenches

After the pipe has been properly bedded, selected material from excavation or borrow, at a moisture content that will facilitate compaction, shall be placed along both sides of pipe in layers not exceeding 6 inches in compacted depth. The backfill shall be brought up evenly on both sides of pipe for the full length of pipe. The fill shall be thoroughly compacted under the haunches of the pipe. Each layer shall be thoroughly compacted with mechanical tampers or rammers. This method of filling and compacting shall continue until the fill has reached an elevation of at least 12 inches above the top of the pipe. The remainder of the trench shall be backfilled and compacted by spreading and rolling or compacted by mechanical rammers or tampers in layers not exceeding 12 inches. Tests for density shall be made as necessary to ensure conformance to the compaction requirements specified below. Where it is necessary, in the opinion of the Contracting Officer, that sheeting or portions of bracing used be left in place, the contract will be adjusted accordingly. Untreated sheeting shall not be left in place beneath structures or pavements.

3.5.2 Backfilling Pipe in Fill Sections

For pipe placed in fill sections, backfill material and the placement and compaction procedures shall be as specified below. The fill material shall be uniformly spread in layers longitudinally on both sides of the pipe, not exceeding 6 inches in compacted depth, and shall be compacted by rolling parallel with pipe or by mechanical tamping or ramming. Prior to commencing normal filling operations, the crown width of the fill at a height of 12 inches above the top of the pipe shall extend a distance of not less than twice the outside pipe diameter on each side of the pipe or 12 feet, whichever is less. After the backfill has reached at least 12 inches above the top of the pipe, the remainder of the fill shall be placed and thoroughly compacted in loose layers not exceeding 12 inches.

3.5.3 Movement of Construction Machinery

When compacting by rolling or operating heavy equipment parallel with the pipe, displacement of or injury to the pipe shall be avoided. Movement of construction machinery over a culvert or storm drain at any stage of construction shall be at the Contractor's risk. Any damaged pipe shall be replace and joints repaired.

3.5.4 Compaction

Compaction and testing requirements for backfill shall comply with Section 02300 EARTHWORK.

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SECTION 02720

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3.14 MAINTENANCE

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SECTION 02720

AGGREGATE BASE AND SURFACE COURSE

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 C 117	(1995) Materials Finer Than 75 micrometer (No. 200 Sieve) in Mineral Aggregates by Washing
ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2211	Standard Specifications for Construction (2000 Edition), Aggregate Base
MNDOT 3138	Standard Specifications for Construction (2000 Edition), Aggregates for Surface and Base Course
MNDOT 3733	Standard Specifications for Construction (2000 Edition), Geotextiles

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

Aggregate Sources; G, MAT

Material sources as specified in Paragraph MATERIAL SOURCES.

SD-06 Test Reports

Aggregate Test Report;

Test report on aggregate as specified in Paragraph MATERIAL SOURCES.

Testing;

Testing results as specified in Paragraph TESTING.

SD-07 Certificates

Separation Fabric;

Certificate stating that the proposed geotextile separation fabric meets the specified requirements.

PART 2 PRODUCTS

2.1 GEOTEXTILE SEPARATION FABRIC

MNDOT 3733, Type V.

2.2 AGGREGATE BASE

MNDOT 3138, Class 5

2.3 AGGREGATE SURFACING COURSE

Aggregate surfacing course shall consist of crushed gravel graded to the class shown and meeting the requirements of MNDOT 3138.

2.4 MATERIAL SOURCES

It shall be the responsibility of the Contractor to make its own investigations for a source of suitable materials and to make its own arrangements with the owners of the pits for procuring the required quantity of suitable material. The Contractor shall designate in writing only one source or one combination of sources from which it proposes to furnish aggregate. A test report demonstrating that the aggregate meets the specified requirements shall be provided to the Contracting Officer. Approval of samples from a source of aggregate is not to be construed as approval of all materials from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels when such materials are unsuitable for aggregate as determined by the Contracting Officer. Materials produced from an approved source shall meet all the requirements of this section.

PART 3 EXECUTION

3.1 GENERAL

Furnishing, placing, compaction, subgrade preparation, and testing shall meet the requirements of the MNDOT 2112, MNDOT 2211, and MNDOT 3138. Compaction shall be in accordance with the specified density method.

3.1.1 Definitions

The term "Engineer" referenced in the state standard specifications shall mean the Contracting Officer.

3.2 EQUIPMENT

All plant, equipment, and tools used in the performance of the work will be subject to approval and shall be maintained in satisfactory working condition at all times. The equipment shall meet the requirements of the referenced state standard specification sections. The base course shall be compacted using a steel-wheeled roller, vibratory smooth drum roller, pneumatic-tired roller, unless other special compaction equipment is approved.

3.3 WEATHER LIMITATION

Base courses shall be placed when the atmospheric temperature is above 35 degrees F. Base shall not be constructed on subgrades that are frozen or contain frost. Areas of completed base course that are damaged by freezing, rainfall, or other weather conditions shall be corrected to meet specified requirements.

3.4 STOCKPILING MATERIAL

Prior to stockpiling of material, storage sites shall be cleared and leveled by the Contractor. Materials obtained from different sources shall be stockpiled separately.

3.5 PREPARATION OF SUBGRADE

Prior to constructing the geotextile stabilization fabric and aggregate base course, the subgrade shall be cleaned of all foreign substances. Ruts or soft, yielding spots in the subgrade, areas having inadequate compaction, and deviations of the surface from the requirements specified shall be corrected by loosening and removing soft or unsatisfactory material and by adding satisfactory material with a consistency and texture similar to the surrounding subgrade, reshaping to line and grade, and recompacting to density requirements specified in Section 02300 EARTHWORK. The finished subgrade shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until the base course is placed.

3.6 PROOF-ROLLING

The subgrade shall be proof-rolled prior to placing geotextile stabilization fabric and aggregate base. Proof-rolling shall be scheduled at a time when the Contracting Officer can observe, unless waived. Proof-rolling shall be accomplished within the limits of the work by passing a loaded 25 ton dump truck or rubber tired heavy equipment over the entire subgrade at a slow rate of speed. Proof-rolling shall be observed by a qualified observer not riding in the vehicle. Soft or loose areas identified by the proof-rolling and occurring in previously placed fill shall be tested for compaction where directed by the Contracting Officer. Isolated areas of soft cohesive soils shall be subcut and replaced with satisfactory fill of a texture similar to surrounding subgrade soil. Loose zones of non-saturated granular soil shall be compacted. The Contracting officer has the option to direct subgrade correction. Correction of fill soils not meeting compaction specifications shall be corrected at the Contractor's expense.

3.7 PLACEMENT OF GEOTEXTILE SEPARATION FABRIC

The prepared surface shall be relatively smooth and free of stones, sticks, or other debris or irregularities that would tend to puncture or tear the geotextile. Unless otherwise directed or approved by the Contracting Officer, the geotextile shall be placed with the highest strength direction (usually the "machine" or roll direction) oriented in the direction of the greatest expected field stress. (This will usually be at right angles to the centerline of the construction.) If multiple pieces of geotextile are required, adjacent strips shall be field or factory sewn, with the seams to have a strength as specified in MNDOT 3733. All seams shall be sewn using a "double spool" machine capable of sewing a Federal Type 401 locking stitch. Seam type (flat, "J", or butterfly), thread strength (25 pound minimum), number of rows of stitching (1 or 2) and stitches per inch (typically 5-7), shall be consistent with achieving the required seam strength and as recommended by the geotextile manufacturer. The geotextile shall be adequately secured so that it is not displaced during subsequent construction. No traffic or construction equipment will be permitted to operate directly on the geotextile. Any damaged geotextile shall be repaired to the satisfaction of the Contracting Officer by patching and sewing or, when appropriate, a 36 inch overlap on all sides without sewing.

3.8 GRADE CONTROL

During construction, the lines and grades, including crown and cross slope indicated for the base course, shall be maintained by means of line and grade stakes placed by the Contractor. Grade stakes shall be in lines parallel to the centerline of the area under construction and suitably spaced for string lining. The Contractor may use an approved laser system in lieu of a grade stake system. Adequate drainage shall be provided during the entire period of construction to prevent water from collecting or standing on the area to be constructed.

3.8.1 Grade and Cross Section Tolerances

Subgrade. 0.05 foot above or below prescribed elevation.

Base Courses. 0.05 foot below prescribed elevation.

3.9 PLACING

The mixed material shall be placed on the prepared geotextile separation fabric in loose lifts not exceeding 12 inches in thickness and in such a manner so as not to cause damage to the fabric. The layers, when compacted, shall be true to the grades or levels required, with the least possible surface disturbance. If base course becomes contaminated by traffic or sedimentation, the surface shall be cleaned prior to completing subsequent work by sweeping with power sweepers, power brooms, or hand brooms.

3.10 COMPACTION

3.10.1 Requirements

Each layer shall be compacted until there is no further evidence of consolidation. Water shall be applied to the base material during the mixing, spreading, and compacting operations when and in the quantities the Contracting Officer considers necessary for proper compaction.

3.10.2 Finishing

The surface of the top layer shall be finished to grade and cross section shown. Finished surface shall be of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be scarified, reworked, or replaced as directed.

3.11 SMOOTHNESS TEST

The surface of the top layer shall not deviate more than 1/2 inch when tested with a 10 foot straightedge applied parallel with and at right angles to the centerline of the area to be paved. Deviations exceeding 1/2 inch shall be corrected.

3.12 THICKNESS CONTROL

The thickness of the base course shall be measured at intervals of one measurement for at least each 500 square yards of base course. The depth measurement shall be made by test holes at least 3 inches in diameter. The work shall be scheduled when the Contracting Officer can observe the testing; and the Contracting Officer shall select the locations of the test holes, unless waived.

3.13 TESTING

The following tests shall be performed by and at the expense of the Contractor. Samples shall be taken when and where directed. Tests of materials not meeting the requirements specified will not be counted as part of the required tests. Copies of test results shall be submitted to the Contracting Officer.

3.13.1 Sieve Analysis (ASTM C 117 and ASTM C 136)

Aggregate Base. One test prior to placing or hauling and one test per 250 cy or fraction thereof (in place measure)

Aggregate Surfacing Course. One test prior to placing or hauling and one test per 250 cy or fraction thereof (in place measure)

3.13.2 Correction

When any source of materials is changed or deficiencies are found, the initial analysis shall be repeated and the material already placed shall be retested to determine the extent of unacceptable material. All in-place unacceptable material shall be replaced.

3.14 MAINTENANCE

The base course shall be maintained in a condition that will meet specification requirements until accepted.

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DIVISION 02 - SITE CONSTRUCTION

SECTION 02741

PLANT MIXED BITUMINOUS PAVEMENT

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SECTION 02741

PLANT MIXED BITUMINOUS 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 SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 117	(1995) Test Method for Material Finer Than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	(2001) Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D 2172	(2001) Test Methods for Quantitative Extraction of Bitumen From Bituminous Paving Mixtures

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2331	Standard Specifications for Construction (2000 Edition), Plant Mixed Bituminous Pavement
MNDOT 2340	Standard Specifications for Construction (2000 Edition), Plant-Mixed Bituminous Pavement Quality Control/Quality Assurance
MNDOT 2357	Standard Specifications for Construction (2000 Edition), Bituminous Tack Coat

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

Paving Schedule;

Submit paving schedule at least 7 days prior to start of paving.

SD-06 Test Reports

Mix Design; G,MAT

At least ten days prior to placement of bituminous pavement the Contractor shall submit the mix proportions that meet the requirements specified in the MNDOT Standard Specifications and that will produce bituminous pavement of the quality required. The mix design will be developed according to the MNDOT Standard Specifications. The mix design shall have the properties specified in Table 2331-1A of MNDOT 2331.

If aggregate or asphalt is utilized from sources other than those initially submitted with the mix design, the aggregate is processed using a different crusher, or if a different type or grade of asphalt is used, the Contractor shall notify the Contracting Officer in wiring before incorporating the material into the work. If the Contracting Officer determines that a new mix design is required, the Contractor shall prepare another mix design and submit it for approval.

Job Mix Formula (JMF)

The results of the mix design process is the Job Mix Formula. The JMF submitted shall contain the following:

1. The percentage of aggregate passing each of the specified sieves.

2. The percent asphalt cement to be added to the mixture.

3. The target air voids will be 4 percent.

4. The maximum specific gravity of the mixture obtained in the laboratory.

5. The bulk specific gravity of the mixture obtained in the laboratory.

6. The percent VMA of the mixture obtained in the laboratory.

7. The Stability of the mix.

8. Flow.

9. Calculated Film Thickness (Microns).

10. Calculated Dust/Asphalt Ratio.

Testing;

The Contractor shall submit complete records of all quality control test and inspections. All test results and calculations shall be recorded and documented on data sheets approved by the Contracting Officer. Data sheets shall list the mix design criteria, job mix formula, testing requirements, and results.

PART 2 PRODUCTS

2.1 BITUMINOUS PAVEMENT

2.1.1 Binder Course

The binder course shall consist of Mixture Type 31B as specified in MNDOT 2331. The asphalt cement shall be PG 58-28.

2.1.2 Wearing Course

The wearing course shall consist of Mixture Type 41A as specified in MNDOT 2331. The asphalt cement shall be PG 58-28.

2.2 TACK COAT

Tack coat shall meet the requirements of MNDOT 2357.

PART 3 EXECUTION

3.1 PAVING

3.1.1 General

Furnishing, paving, finishing, compaction, and installation of bituminous pavement shall meet the requirements of the specified sections of the MNDOT Standard Specifications, except as otherwise required herein. Where referenced in the MNDOT Standard Specifications, Engineer shall mean the Contracting Officer and Department shall mean the Government. Any reference in the MNDOT Standard Specifications to testing to be done by the Department shall be replaced with testing to be done by the Contractor. Quality Control shall be the responsibility of the Contractor. The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work.

3.1.2 Preparation

Refer to Section 02720 AGGREGATE BASE for subgrade preparation and aggregate base.

3.1.3 Construction Requirements

Place bituminous pavement in accordance with MNDOT 2331. Apply tack coat between binder course and wearing course in accordance with MNDOT 2357.

3.2 TESTING

3.2.1 General

All testing expenses shall be the Contractor's responsibility. Prior to sampling and testing the work, testing laboratories shall be inspected and approved in accordance with Section 01451 CONTRACTOR QUALITY CONTROL. All testing shall conform with the requirements of MNDOT 2340.

3.2.2 Transmittal

The Contracting Officer shall be informed of test results daily for direction or corrective action required. Draft copies of field testing results shall be submitted to the Contracting Officer within 24 hours of

the test, as directed.

3.2.3 Response to Results and Corrective Action

As required in MNDOT 2340.

3.2.4 Testing Schedule

Perform the following testing; the frequency of testing listed applies to each separate area paved. Core samples will be used to measure the thickness and specified density. Compare Marshall density test results from the bag samples to the bituminous mixture core samples to determine the pay factor in accordance with MNDOT 2331.

Material	Test	Frequency
Aggregate for Bituminous Mixture	Sieve Analysis (ASTM C 117 & ASTM C 136)	Every 125 Cubic Yards
Bituminous Binder and Wearing Course	Core Samples (MNDOT 2331)	3 for each course
	Extraction (ASTM D 2172)	3 for each course
	Marshall Density	1 for each course

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SECTION 02870

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SECTION 02870

SITE FURNISHINGS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications shall be referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 36/A 36M	(1996) Carbon Structural Steel
ASTM A 153	(1996) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 500	(1993) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A 501	(1993) Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
ASTM D 648	(1996) Deflection Temperature of Plastics Under Flexural Load
ASTM D 2990	(1995) Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics

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

Benches; G, GEN
Signs; G, GEN
Bollards; G, GEN

Drawings showing scaled details of proposed site furnishings, elevations for each type of site furnishing; dimensions, details, and methods of mounting or anchoring; shape and thickness of materials; and details of construction.

SD-03 Product Data

Benches
Signs
Bollards

Manufacturer's descriptive data and catalog cuts.

SD-06 Test Reports

Recycled Materials

A report of site furnishing parts consisting of recycled materials. Product specification data, providing test information for deflection and creep in accordance with ASTM D 648 and ASTM D 2990 for site furnishings which use plastic lumber as a component, shall be submitted. The data shall provide a comparison of deflection and creep measurements to other comparable materials.

1.3 DELIVERY, STORAGE, AND HANDLING

Materials shall be delivered, handled, and stored in accordance with the manufacturer's recommendations. The storage area shall be as designated. The materials shall be stored in a dry, covered area until installed.

1.4 INSPECTION

Site furnishings shall be inspected upon arrival at the job site for conformity to specifications and quality in accordance with paragraph MATERIALS. Unacceptable items shall be removed from the job site.

PART 2 PRODUCTS

2.1 MATERIALS

Materials shall be the standard products of a manufacturer regularly engaged in the manufacture of such products. The materials provided shall be of a type with proven satisfactory use for at least 2 years. Benches shall be ADA approved.

2.1.1 Concrete

Cast-in-place concrete materials and products shall conform to Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE.

2.1.2 Metal

Metal components shall be furnished with factory drilled holes. Components shall be free of excess weld and spatter. Metal components with holes that will not be filled by hardware or hidden by other components will be rejected.

2.1.2.1 Steel

Structural steel products shall conform to ASTM A 36/A 36M, ASTM A 500 and ASTM A 501.

2.1.2.2 Reinforcing Steel

Steel used for reinforcement shall conform to Section 03200 CONCRETE REINFORCEMENT.

2.1.3 Recycled Material

2.1.3.1 General Requirements

Recycled materials shall contain a minimum 85 percent recycled post-consumer product. Recycled materials shall be constructed or manufactured with a maximum 1/4-inch deflection or creep in any member in conformance with ASTM D 648 and ASTM D 2990.

2.1.3.2 High Density Polyethylene

The Contractor shall provide panels and components molded of ultraviolet (UV) and color stabilized polyethylene, with minimum 1/4 inch wall thickness; exposed edges shall be smoothed, rounded, and free of burrs and points; and the material shall be resistant to fading, cracking, fogging, and shattering. The material shall be non-toxic and have no discernible contaminates such as paper, foil, or wood. The material shall contain no more than 3 percent air voids. Material shall be resistant to deformation from solar radiation heat gain.

2.1.3.3 Structural Components

Recycled materials, including plastic lumber, shall not be used as structural components of site furnishings.

2.2 HARDWARE

Hardware shall be stainless steel or galvanized steel as indicated, in accordance with ASTM A 153 and compatible with the material to which applied. All exposed hardware shall match in color and finish. Mounting hardware shall be concealed, recessed, and plugged.

2.3 ANCHORS

Anchors shall be provided, where necessary, for fastening site furnishings securely in place and in accordance with approved manufacturer's instructions. Anchoring devices that may be used, when no anchors are otherwise specified or indicated, include anchor bolts, slotted inserts, expansion shields for concrete; toggle bolts and through bolts for masonry; machine carriage bolts for steel; and lag bolts and screws for wood.

2.4 FINISH

Finish shall be as specified by the manufacturer or as indicated. Exposed surfaces and edges shall be rounded, polished, or sanded. Finish shall be non-toxic, non-glare, and resistant to corrosion. Exposed surfaces shall be smooth and splinter-free exposed surfaces.

2.5 BENCHES

a. DuMor Recycled Plastic Bench: Model 16-PL, 6 feet, or approved equal. Surface mount, recycled plastic slats in 'Cedar', 'Green' polyester power-coat finish.

b. Contact: Earl F. Andersen Company, Phone: 952-884-7300, Fax: 952-884-5619.

2.6 SIGNS

a. Signs shall be in accordance with the U.S. Department of Transportation Manual of Uniform Traffic Control Devices (MUTCD) Sign Designations R1-2 and R5-3. Signs shall be constructed of either 18 gage bonderized steel or 0.080 inch aluminum (at Contractor's option) with baked enamel finish and screen printed copy on engineer grade reflective vinyl sheeting. Best Signs Custom Regulatory Signage, or approved equal.

b. Contact: Paula, Construction Supply, Inc. , Phone: 763-537-5018.

2.7 BOLLARDS

The Bollards identified below are for the maintenance road raise.

a. Timberform Recycled Plastic Bollard with reflectors: Model 2553-3-E-M, or approved equal. Color shall be 'Cedar', no directional arrow.

b. Timberform Recycled Plastic Removable Bollard with reflectors: Model 2553-3-R-MA, or approved equal. Color shall be 'Cedar'.

c. Contact: John Masciopinto, Park and Plaza Products, Inc., Phone: 651-653-0556, Fax: 651-653-0598.

PART 3 EXECUTION

3.1 INSTALLATION

The Contractor shall verify that finished grades and other operations affecting mounting surfaces have been completed prior to the installation of site furnishings. Site furnishings shall be installed plumb and true in accordance with the approved manufacturer's instructions.

3.1.1 Parts

New parts shall be acquired from the manufacturer. Substitute parts will not be accepted unless approved by the manufacturer.

3.1.2 Assembly

When the inspection of parts has been completed, the site furnishings shall be assembled and anchored according to manufacturer's instructions or as indicated. When site furnishings are assembled at the site, assembly shall not interfere with other operations or pedestrian and vehicular circulation.

3.1.3 Testing

Each site furnishing shall be tested to determine a secure and correct installation. A correct installation shall be according to the manufacturer's recommendations and by the following procedure: The Contractor shall measure the physical dimensions and clearance of each installed site furnishing for compliance with manufacturer's recommendations and as indicated. Site furnishings which do not comply shall be reinstalled. Fasteners and anchors determined to be non-compliant shall be replaced.

3.2 INSTALLATION OF BOLLARDS

Bollards shall be set vertically in concrete having a compressive strength of 3000 psi.

3.3 RESTORATION AND CLEAN UP

When the installation has been completed, the Contractor shall clean up and protect the site. Existing areas that have been damaged from the installation operation shall be restored to original condition at Contractor's expense.

3.3.1 Clean Up

The site shall be cleaned of all materials associated with the installation. Site furnishing surfaces shall be cleaned of dirt, stains, filings, and other blemishes occurring from shipment and installation. Cleaning methods and agents shall be according to manufacturer's instructions or as indicated.

3.3.2 Protection

The area shall be protected as required or directed by providing barricades and signage.

3.3.3 Disposal of Materials

Excess and waste material shall be removed and disposed off Government property.

3.4 RE-INSTALLATION

Where re-installation is required, the following shall be accomplished:

a. Re-install the product as specified. Material acquisition of replacement parts is the responsibility of the Contractor. Provide replacement materials that are new and supplied by the original manufacturer to match.

b. Damage caused by the failed installation shall be repaired.

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SECTION 02920

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SECTION 02920

SEEDING AND TOPSOIL

PART 1 GENERAL

Wherever possible, all seed shall be drilled. Other seeding methods are subject to approval. Existing turf areas which have been damaged during the contract operations, and which are outside of the limits designated to be seeded, shall be restored following the requirements in this section, at no additional cost to the Government.

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.

AGRICULTURAL MARKETING SERVICE (AMS)

AMS-01	(Aug 95) Federal Seed Act Regulations Part 201

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 4972	(1995a) pH of Soils
ASTM D 5268	(1992; R 1996) Topsoil Used for Landscaping Purposes

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 3876	Standard Specifications for Construction (2000 Edition), Seed

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Manufacturer's Literature;

The Contractor shall submit manufacturer's literature discussing physical characteristics, applications, guarantees, and installation of the seed, mulch, and fertilizer. The Contractor shall submit manufacturer's literature for equipment showing application and installation instructions.

Seed Order for Native Grasses;

Contractor shall submit proof of seed order for native grass seed mixes as specified within this section within 30 days of notice to proceed.

SD-06 Test Reports

Soil Test;

Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

Seed Test;

The Contractor shall submit test reports for a purity and germination test following the Association of Official Seed Analysts (AOSA) rules for each seed mixture. The test reports shall indicate the purity percentage, germination percentage, and amount of Pure Live Seed (PLS) per bag for each species.

Water Test;

Water from sources other than municipal water supply shall be tested for salinity and pH.

SD-07 Certificates

Experience for Native Grasses;

The Contractor shall submit a statement indicating that the work to establish the turf will be supervised by an individual with a minimum of 5 years experience with establishment and restoration of native plant communities.

Certificates of Compliance;

Prior to the delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following:

a. Seed. Mixture percentage, percent pure live seed, percent germination, weed seed content, and date tested.

b. Topsoil. Gradation, pH, organic matter content, textural class, soluble salts.

c. Fertilizer. Chemical analysis and composition percent.

d. Organic Material: Composition and source.

e. Mulch: Composition and source.

SD-11 Closeout Submittals

Quantity Check;

Bag count or bulk weight measurements of material used compared with area covered to determine the application rate and quantity installed.

Maintenance Record;

Maintenance work performed, area repaired or reinstalled, diagnosis for unsatisfactory stand of grass plants.

1.3 SOURCE INSPECTION

The source of delivered topsoil shall be subject to inspection.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.4.1 Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed materials shall be delivered in manufacturer's original, unopened containers with labels and tags intact and legible. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected. Other materials shall be inspected for compliance with specified requirements. The following shall be rejected: open soil amendment containers or wet soil amendments; topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter; and topsoil that contains viable plants and plant parts. Unacceptable materials shall be removed from the job site.

1.4.2 Storage

Materials shall be stored on-site in areas provided by the Contractor. The storage areas shall be made accessible to the Contracting Officer so that application rates can be verified. Seed, lime, and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment materials shall be stored according to manufacturer's instructions and not with seed.

1.4.3 Handling

Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

1.4.4 Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

PART 2 PRODUCTS

2.1 SEED

Substitutions will not be allowed without written request and approval from the Contracting Officer. The mixing of seed may be done by the seed supplier prior to delivery, or on site in the presence of the Contracting Officer. Seed for native grass and forbe species shall be gathered from within 500 miles of the jobsite.

2.1.1 Seed Classification

State-certified seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for mixture percentage, purity, germination, weed seed content, and inert material. Labels shall be in conformance with AMS-01 and applicable state seed laws.

2.1.2 Permanent Seed Species and Mixtures

Permanent grass seed species and mixtures shall be as follows:

a. Native Seed Mix: MNDOT 3876, Mixture 30B-WF1, Urban Prairie with Forbs.

2.1.3 Temporary Seed Species

Seed species for winter erosion protection, temporary surface erosion control, or overseeding shall consist of 10 pounds of oats per acre.

2.1.4 Quality

Weed seed shall be a maximum 1/2 of 1 percent by weight of the total mixture. Innoculent shall consist of the proper bacteria applied in the amount and manner recommended by the manufacturer to all legumes in the seed mix.

2.2 TOPSOIL

Topsoil shall be as defined in ASTM D 5268. Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over 1-1/2 inch diameter. Topsoil shall be free from viable plants and plant parts.

2.3 SOIL AMENDMENTS

Soil amendments required under this contract consist of fertilizer. Soil amendments consisting of pH adjuster, organic material and soil conditioners may be added at the Contractor's option if approved by the Contracting Officer, or shall be added if directed by the Contracting Officer and will be negotiated in accordance with contract clause: CHANGES.

2.3.1 Fertilizer

The nutrients ratio shall be 20 percent nitrogen, 20 percent phosphorus, and 20 percent potassium. Fertilizer shall be controlled release commercial grade, free flowing, and uniform in composition.

2.3.2 Organic Material

Organic material shall consist of either rotted manure or recycled compost. Bonemeal and decomposed wood derivatives shall not be used.

2.3.2.1 Rotted Manure

Rotted manure shall be unleached horse, chicken or cattle manure containing a maximum 25 percent by volume of straw, sawdust, or other bedding materials. It shall contain no chemicals or ingredients harmful to plants. The manure shall be heat treated to kill weed seeds and be free of stones,

sticks, and soil.

2.3.2.2 Recycled Compost

Compost shall be a well decomposed, stable, weed free organic matter source. Compost shall be derived from vegetable food products; agricultural or industrial residuals; biosolids (treated sewage sludge); yard trimmings; or source-separated or mixed solid waste. The compost shall possess no objectionable odors and shall not resemble the raw material from which it was derived. The material shall not contain substances toxic to plants. Gradation: The compost material shall pass through a 3/8 inch screen, possess a pH of 5.5 to 8.0, and have a moisture content between 35-55 percent by weight. The material shall not contain more than 1 percent by weight of man-made foreign matter. Compost shall be cleaned of plastic materials larger than 2 inches in length.

2.4 MULCH

2.4.1 Straw

Straw mulch materials shall consist of wheat, oat, or rye straw, hay, grass, or other plants approved by the Contracting Officer. Mulch materials shall be native to the region. The mulch material shall be air dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The mulch shall be seed free or fumigated to prevent introduction of weeds. The use of mulch that contains noxious weeds will not be accepted. Dry mulching material which breaks and does not bend is unacceptable. Mulch shall have a consistency for placing with commercial mulch blowing equipment.

2.4.2 Paper Fiber

Paper fiber mulch shall be recycled news print that is shredded for the purpose of mulching seed.

2.5 WATER

Water shall be the responsibility of the Contractor, unless otherwise noted. Water shall not contain elements toxic to plant life.

PART 3 EXECUTION

3.1 INSTALLING SEED TIME AND CONDITIONS

3.1.1 Notification

The Contractor shall notify the Contracting Officer 24 hours in advance of beginning seeding or any changes in turf establishment operations.

3.1.2 Seeding Rate

Seed shall be applied at the following rates:

a. Native Seed Mix: 60 pounds per acre.

3.1.3 Seeding Time

Seed shall be installed between April 15 and July 20 or between September 20 and October 20. No finished construction area shall be left untopsoiled

and unseeded during the winter months. When substantially complete areas are not seeded within the specified seeding times for fall planting, a temporary winter cover shall be placed.

3.1.4 Seeding Conditions

Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the seeding operations, proposed alternate times shall be submitted for approval.

3.2 SOIL TEST

Delivered topsoil, existing soil in smooth graded areas, and stockpiled topsoil shall be tested in accordance with ASTM D 5268 and ASTM D 4972 for determining the particle size, pH, and organic matter content. The samples shall be taken at locations directed by the Contracting Officer, unless waived. The tests shall determine the quantities and type of soil amendments required to meet local growing conditions for the seed species specified.

3.3 SITE PREPARATION

3.3.1 Finished Grade and Topsoil

The Contractor shall verify that finished grades are as indicated on drawings, and the placing of topsoil, smooth grading, and compaction requirements have been completed prior to the commencement of the seeding operation. All vegetation, including live roots, shall be completely removed or treated with herbicide prior to spreading topsoil or placing sod.

3.3.2 Spreading Topsoil

Topsoil shall be distributed and spread uniformly to one half the thickness shown on the plans and tilled to a depth of 2 inches into the subgrade. The remaining half of the topsoil shall then be placed. Surface irregularities resulting from topsoiling or other operations shall be leveled to prevent depressions.

3.3.2.1 Equipment

Topsoil shall be spread using a bladed dozer having ground pressure less than 4.5 psi and operating weight less than 35,000 pounds, or with rubber tired equipment having operating weight less than 10,000 pounds. The work shall be coordinated such that equipment for hauling the topsoil does not travel over the topsoil in place. Areas compacted by construction operations shall be completely pulverized by tillage.

3.3.2.2 Stripped Materials.

Topsoil shall be native material stripped prior to construction and stockpiled for later replacement. If the Contractor fails to conserve material, or if sufficient native topsoil does not exist to provide the specified thickness, the Contractor shall furnish supplemental topsoil from borrow sources arranged and paid for by the Contractor.

Topsoil obtained from stripping operations shall be kept separate from other unusable excavated materials, brush, litter, objectionable weeds,

roots, stones, and other materials that would interfere with planting and maintenance operations. Unusable material shall be removed and properly disposed of.

3.3.3 Tillage

Topsoil on slopes up to a maximum 3H:1V slope shall be tilled to a nominal 3 inch depth by plowing, disking, harrowing, rototilling or other approved method. On slopes between 3H:1V and 1:1, the soil shall be tilled to a minimum 2 inch depth by scarifying with heavy rakes, or other method.

3.3.4 Treatments

Fertilizers shall be applied per manufacturer's directions. The fertilizer shall be applied at the rate recommended by the soil test. Fertilizer may be incorporated as part of the tillage operation. The Contractor shall assume full responsibility for any loss or damage to seed arising from improper use of herbicides or other chemicals or due to failure to allow sufficient time to permit dissipation of toxic residues, whether or not such materials are specified herein.

3.3.5 Prepared Surface

The prepared surface shall be 1 inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas. The prepared surface shall be completed with a light raking to remove debris. Debris and stones over a minimum 1-1/2 inches in any dimension shall be removed from the surface. Drainage patterns shall be maintained as indicated on drawings. Tolerance for prepared surfaces shall be within 1 inch of the plan elevation. The prepared surface shall be protected from compaction or damage by vehicular or pedestrian traffic and surface erosion.

3.4 SEEDING

Prior to installing seed, any previously prepared surface compacted or damaged shall be reworked to meet the requirements of paragraph SITE PREPARATION. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

3.4.1 Equipment

Gravity feed applicators, which drop seed directly from a hopper onto the prepared soil, shall not be used because of the difficulty in achieving even coverage, unless otherwise approved.

3.4.2 Broadcast Seeding

In areas inaccessible to drill seeding, seed shall be broadcast by hand. Seed shall be uniformly broadcast at the rate specified for the mix. Half the total rate of seed application shall be sown with sower moving in one direction, and the remainder with sower moving at right angles to first sowing. Seed shall be covered a maximum 1/4 inch depth by disk harrow, steel mat drag, cultipacker, or other approved device. Seed shall not be broadcast when wind speed exceeds 5 miles per hour.

3.4.3 Drill Seeding

Seed shall be uniformly drilled to a depth of 1/2 to 3/4 inches at the rate specified for the mix. Equipment shall have drills a maximum 6 inches

distance apart. Row markers shall be used with the drill seeder. Seed shall be drilled in two directions, applying approximately half the seed in each direction. The drilling equipment shall be maintained with half full seed boxes during the seeding operations. When slopes exceed 1 vertical on 5 horizontal, baffle plates spaced not more than 6 inches apart shall be installed in the seed box.

3.4.4 Hydroseeding (Optional)

The hydroseeding operation shall apply the seed, mulch, and fertilizer simultaneously. The seed shall be applied at the rate indicated in the Seed Mixture Table. The fertilizer shall be applied at a rate proposed by the Contractor and agreed to by the Contracting Officer. The mulch shall be applied at a rate of about 1 ton per acre. During application, the spray shall be directed to obtain a uniform material distribution as evidenced by a formation of a "blotter-like" cover, with about 5% void area. The mulch shall permit percolation of water to the underlying soil. The seed mixed with water and fertilizer shall be applied within 1 hour after adding to the tank.

3.4.5 Mulching

3.4.5.1 Hay or Straw Mulch

Hay or straw mulch shall be spread uniformly at the rate of 2 tons per acre, except as modified for native grasses. Mulch shall be spread by hand, blower-type mulch spreader, or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of steep slopes, and continued uniformly until the area is covered. The mulch shall not be bunched or clumped. Sunlight shall not be completely excluded from penetrating to the ground surface. All areas installed with seed shall be mulched on the same day as the seeding. Mulch shall be anchored immediately following spreading.

3.4.5.2 Mechanical Anchor

Mechanical anchor shall be a V-type-wheel land packer; a scalloped-disk land packer designed to force mulch into the soil surface; or other suitable equipment.

3.4.5.3 Paper Fiber and Recycled Paper

Paper fiber or recycled paper shall be applied as part of the hydroseeding operation. The mulch shall be mixed and applied in accordance with the manufacturer's recommendations.

3.4.6 Initial Watering

Watering shall be started immediately after completing the seeding of an area. Water shall be applied to supplement rainfall at a rate sufficient to ensure moist soil conditions to a minimum 3 inch depth. Run-off and puddling shall be prevented. Watering trucks shall not be driven over turf areas, unless otherwise directed by Contracting Officer.

3.4.7 Native Grasses

Hay or straw mulch shall be spread uniformly at the rate of 2 tons per acre. Areas seeded with native grasses, except slopes steeper than 3H:1V, shall be firmed with a roller not exceeding 90 pounds per foot roller

width. Seed drills equipped with rollers are acceptable.

3.5 RESTORATION AND CLEAN UP

Immediately upon completion of the seeding operation in an area, the area shall be protected against traffic or other use by erecting barricades, providing signage, or as directed by Contracting Officer. Existing turf areas, pavements, riprap areas and other project features that have been damaged from the seeding operation shall be restored to original condition at Contractor's expense. Excess and waste material shall be removed from the seeded areas and shall be disposed offsite. Adjacent paved areas shall be cleaned.

3.6 MAINTENANCE

3.6.1 Maintenance Watering

The Contractor shall be responsible for watering after planting to promote adequate growth and development. Water shall be distributed with equipment that does not erode or disturb the mulch. If the grass wilts, or if the soil becomes crusted and desiccated during germination, the Contracting Officer may direct watering. Watering directed by the Contracting Officer shall be performed within 48 hours after notice by the Contracting Officer to the Contractor; and shall place about 10,000 gallons per acre.

3.6.2 Mowing

a. Bluegrass predominant seed mixes: Mowing shall be done as needed to maintain lawn areas at a nominal height of 3 inches until final acceptance, except not more than 1/3 of the grass leaf shall be removed by the initial cutting. Clippings shall be removed when the amount of cut turf is heavy enough to damage the turfed areas. Seeded areas shall be mowed immediately prior to final inspection.

b. Native Grasses: Areas seeded with native grasses shall be mowed during the first growing season to control pioneering weeds and other competition. For the purposes of this project a weed is defined as any plant not included in the seed mix. Mowing should be done before the general height is 6 to 10 inches, or when the weedy foliar cover reaches 50 percent of the seeded area, or when the weed species begin to flower. The first mowing shall be set at a height of 3 inches with the following mowings to be set at a height of 4 to 8 inches. Rotary, flail, or sickle bar type mowing equipment is acceptable.

3.6.3 General Maintenance

Maintenance of the seeded areas shall include eradicating weeds, protecting embankments and ditches from surface erosion, maintaining erosion control materials and mulch, protecting installed areas from traffic, mowing, watering, and post-fertilization. If any portion of the surface becomes rilled, gullied, damaged, or destroyed, that portion shall be repaired to re-establish the area without additional cost to the government. The Contractor shall control erosion during the maintenance period by using ditch checks, sod swales, silt fences or other methods until a proper stand of turf is established.

3.6.3.1 Repair or Reinstall

Unsatisfactory stand of grass plants and mulch shall be repaired or reinstalled, and eroded areas shall be properly filled. Mulch material that has been removed by wind or other causes shall be replaced and secured. Maintenance shall include protecting embankments and ditches from erosion and maintaining erosion control material.

3.6.4 Maintenance Record

A record of each site visit shall be furnished, describing the maintenance work performed; areas repaired or reinstalled; and diagnosis for unsatisfactory stand of grass plants.

3.7 ACCEPTANCE

Turf establishment after seeding shall extend for 12 months after completion of the seeding on the entire project, unless desired growth is established, and shortening the period of the Contractor's responsibility for acceptably established areas is authorized by the Contracting Officer.Grass plants shall be evaluated for species and health when the grass plants are a minimum 1 inch high.

a. Bluegrass Predominant Seed Mixes. A stand of turf is defined as a uniform stand of grass that is at least 2 inches tall with a minimum of 100 grass plants per square foot and reasonably free of weeds and visual imperfections as assessed by the Contracting Officer.

b. Native Seed Mixes. A proper stand of turf from the seeding of native grasses is defined as a minimum of 2 to 4 plants per square foot and where no gaps larger than 6 inches in diameter occur anywhere in the turfed area. Only plants specified in the seed mix table will be considered.

3.8 SURFACE EROSION CONTROL

Where directed, surface erosion control material shall be installed in accordance with manufacturer's instructions. Placement of the material shall be accomplished without damage to installed material and deviation to finished grade. When directed by Contracting Officer and during contract delays affecting the seeding operation or when a quick cover is required to prevent surface erosion, the areas designated shall be seeded with a temporary seed crop.

-- End of Section --

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SECTION 02930

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SECTION 02930

EXTERIOR PLANTING

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 NURSERY AND LANDSCAPE ASSOCIATION (ANLA)

ANLA Z60.1	(1996) Nursery Stock

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A300	(1995) Tree Care Operations - Trees, Shrubs and other Woody Plant Maintenance

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 5268	(1992; R 1996) Topsoil Used for Landscaping Purposes

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

Plant Installation Schedule; G,GEN

Plant installation schedule shall be submitted a minimum of 30 days before beginning plant installation. Schedule shall specify planting season (spring or fall), dates, locations, and plant materials to be installed.

Plant Establishment Period;

Upon completion of the last day of the planting operation, the plant establishment period for maintaining installed plant material in a healthy growing condition shall commence and shall be in effect for the remaining contract time period, not to exceed 12 months. Written calendar time period shall be furnished for the plant establishment period. When there is more than one plant establishment period, the boundaries of the planted area covered for each period shall be described.

SD-06 Test Reports

Maintenance Record;

A record shall be furnished describing the maintenance work performed, the quantity of plant losses, diagnosis of the plant loss, the quantity and date of replacements made, and pesticide application.

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery

1.3.1.1 Plant Material Identification

Plant material shall be identified with attached, durable, waterproof labels and weather-resistant ink, stating the common name, correct botanical plant name and size.

1.3.1.2 Protection During Delivery

Plant material shall be protected during delivery to prevent desiccation and damage to the branches, trunk, root system, or earth ball. Branches shall be protected by tying-in. Exposed branches shall be covered during transport.

1.3.1.3 Conditioners and Amendments

Soil conditioners and amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis and name. In lieu of containers, soil conditioners and amendments may be furnished in bulk and a certificate from the manufacturer indicating the above information shall accompany each delivery.

1.3.1.4 Pesticide Material

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration number and the manufacturer's registered uses.

1.3.2 Storage

Plants stored on the work site shall be protected from any drying at all times by covering the balls or roots with moist sawdust, wood chips, shredded bark, peat moss, or other similar mulching material. Plants, including those in containers, shall be kept in a moist condition by watering with a fine mist spray until planted.

Storage of other material shall be in designated areas. Soil amendments shall be stored in dry locations and away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with plants or other materials.

1.3.3 Handling

Plant material shall not be injured in handling. Cracking or breaking the earth ball of balled and burlapped plant material shall be avoided. Plant material shall not be handled by the trunk or stems. Materials shall not

be dropped from vehicles.

1.4 SCHEDULE

Planting shall be conducted under favorable weather conditions during the following planting seasons:

a. Spring: April 1 to June 15.
b. Fall: September 30 to November 30.

When special conditions warrant a variance to the planting operations, proposed planting times shall be submitted for approval. Planting operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, frozen ground or other unsatisfactory conditions prevail, the work shall be stopped when directed.

1.5 INSPECTION

Plants shall be subject to inspection at any time prior to planting. Plants may be inspected at the nursery prior to shipment, but such inspection shall not be considered as acceptance. Upon request of the Contracting Officer, the contractor shall accompany the government inspector to the nursery and identify plant material to be furnished. Unacceptable material shall be promptly removed from the job site.

PART 2 PRODUCTS

2.1 PLANT MATERIAL

Trees shall be delivered to the jobsite without wrapping (bark shall be visible for inspection).

2.1.1 Quality

Well shaped, well grown, vigorous plant material having healthy and well branched root systems in accordance with ANLA Z60.1 shall be provided. Plant material shall be provided free from disease, harmful insects and insect eggs, sun-scald injury, disfigurement and abrasion. Plant material shall be free of shock or damage to branches, trunk, or root systems, which may occur from the digging and preparation for shipment. Plant material shall be well shaped, vigorous and healthy with a healthy, well branched root system. Plant material shall be checked for unauthorized substitution and to establish nursery grown status. The plant material shall exhibit typical form of branch to height ratio; and meet the caliper and height measurements specified. Plant material that measures less than specified, or has been poled, topped off or headed back, shall be rejected. Container-grown plant material shall show new fibrous roots and the root mass shall contain its shape when removed from the container.

2.1.2 Method of Shipment to Maintain Health of Root System

2.1.2.1 Balled and Burlapped (BB) Plant Material

Ball size and ratio shall be in accordance with ANLA Z60.1. The ball shall be of a diameter and depth to encompass enough fibrous and feeding root system necessary for the full recovery of the plant. The plant stem or trunk shall be centered in the ball. All roots shall be clean cut at the ball surface. Roots shall not be pulled from the ground. Before shipment

the root ball shall be dipped in gels containing mycorrhizal fungi inoculum. The root ball shall be completely wrapped with burlap or other suitable material and securely laced with biodegradable twine. Plant material with broken or cracked balls; or broken containers shall be rejected.

2.1.2.2 Container-Grown (C) Plant Material

Container size shall be in accordance with ANLA Z60.1. Plant material shall be grown in a container over a duration of time for new fibrous roots to have developed and for the root mass to retain its shape and hold together when removed from the container. Container-grown plant material shall be inoculated with mycorrhizal fungi during germination in the nursery. Before shipment the root system shall be dipped in gels containing mycorrhizal fungi inoculum. The container shall be sufficiently rigid to hold ball shape and protect root mass during shipping.

2.1.3 Growth of Trunk and Crown

2.1.3.1 Deciduous Trees

A height to caliper relationship shall be provided in accordance with ANLA Z60.1. Height of branching shall bear a relationship to the size and species of tree specified and with the crown in good balance with the trunk. The trees shall not be "poled" or the leader removed.

a. Single stem: The trunk shall be reasonably straight and symmetrical with crown and have a persistent main leader.

b. Multi-stem: All countable stems, in aggregate, shall average the size specified. To be considered a stem, there shall be no division of the trunk which branches more than 6 inches from ground level.

c. Specimen: The tree provided shall be well branched and pruned naturally according to the species. The form of growth desired, which may not be in accordance with natural growth habit, shall be as indicated.

2.1.3.2 Deciduous Shrubs

Deciduous shrubs shall have the height and number of primary stems recommended by ANLA Z60.1. Acceptable plant material shall be well shaped, with sufficient well-spaced side branches, and recognized by the trade as typical for the species grown in the region of the project.

2.1.3.3 Coniferous Evergreen Plant Material

Coniferous Evergreen plant material shall have the height-to-spread ratio recommended by ANLA Z60.1. The coniferous evergreen trees shall not be "poled". The leader shall be whole and unprunned, including the tip.

2.2 TOPSOIL

Topsoil shall be as defined in ASTM D 5268. When available, the topsoil shall be the existing surface soil stripped and stockpiled onsite in accordance with Section 02300 EARTHWORK. Additional topsoil required beyond that available from stripping operations shall be imported. Topsoil shall meet the physical requirements of, and shall be tested, amended,

fertilized and treated in accordance with Section 02920.

2.3 MULCH

Mulch shall be free from weeds, mold, and other deleterious materials. Rotted manure and recycled mulch including compost, plastics, or pine needles is not acceptable. Wood chips and shredded or ground bark shall be treated to retard the growth of mold and fungi.

2.4 MYCORRHIZAL FUNGI INOCULUM

Mycorrhizal fungi inoculum shall be composed of multiple-fungus inoculum as recommended by the manufacturer for the plant material specified.

2.5 PESTICIDE

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide or miticide. For the purpose of this specification, soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved.

2.6 TRUNK WRAPPING MATERIAL

Tree wrap shall be two thicknesses of crinkled paper cemented together with a layer of bituminous material. Wrapping material shall be a minimum of 4 inches in width and shall stretch 33 percent without breakage. Waterproof tape shall be used to bind wrapping to tree.

PART 3 EXECUTION

3.1 PROTECTION OF EXISTING VEGETATION

If turf areas have been established prior to planting operations, the surrounding turf shall be covered before excavations are made in a manner that will protect turf areas. Existing trees, shrubbery, and beds that are to be preserved shall be protected in accordance with the approved Environmental Protection Plan and SECTION: 01000 GENERAL.

3.2 SITE PREPARATION

The Contractor shall verify that finished grades are as indicated on drawings, and that the placing of topsoil, the smooth grading, and the compaction requirements have been completed in accordance with Section 02300 EARTHWORK, prior to the commencement of the planting operation. The location of underground utilities and facilities in the area of the planting operation shall be verified. Damage to underground utilities and facilities shall be repaired at the Contractor's expense.

3.2.1 Layout

Tree locations and bed outlines shall be staked by the Contractor on the project site and approved by the Contracting Officer before any plant pits or beds are dug.

3.3 INSTALLATION

3.3.1 Setting Plant Material

Plant material shall be set plumb and held in position until sufficient

soil has been firmly placed around root system or ball. Balled and burlapped and container grown plants shall be handled and moved only by the ball or container. Plastic wrap and metal baskets shall be completely removed before the placement of backfill. Container grown stock shall be removed from containers without damaging plant or root systems. After centering the plant in pit, all ropes secured to the trunk shall be removed and burlap opened on the top 1/3 of the root ball.

3.3.2 Backfill Soil Mixture

The backfill soil mixture may be a mix of topsoil and soil amendments suitable for the plant material specified. When practical, the excavated soil from the plant pit that is not amended provides the best backfill and shall be used. Mycorrhizal fungi inoculum shall be added as recommended by the manufacturer for the plant material specified.

3.3.3 Backfill Procedure

Prior to backfilling, all metal, wood, synthetic products, or treated burlap devices shall be removed from the ball or root system avoiding damage to the root system. The backfill procedure shall remove air pockets from around the root system. Plant pits and plant beds shall be watered immediately after backfilling, until completely saturated.

3.3.4 Staking and Guying

Staking will be required when trees are unstable or will not remain set due to their size, shape, or exposure to high wind velocity. Trees that are staked and guyed shall be completed as shown.

3.4 FINISHING

3.4.1 Placing Mulch

Care shall be taken to avoid contaminating the mulch with the planting soil. Mulch shall be kept out of the crowns of shrubs, and shall be kept off buildings, sidewalks, fences, and other facilities.

3.4.2 Pruning

New plant material shall be pruned in accordance with recommended dates for each species in the following manner: prune dead and broken branches, cross branches, weak branches, and for shape. Typical growth habit of individual plants shall be retained with as much height and spread as is practicable. The pruning of trees shall be in accordance with ANSI A300. Clean cuts shall be made flush with the parent trunk. Improper cuts, stubs, dead and broken branches shall be removed. "Headback" cuts at right angles to the line of growth will not be permitted. Trees shall not be poled or the leader removed, nor shall the leader be pruned or "topped off". Trimmings shall be disposed of as specified for clearing and grubbing debris in SECTION: 01000 GENERAL.

3.4.3 Wrapping

The trunks of deciduous trees, planted during the fall, shall be wrapped within 24 hours after planting. Trees planted during the spring shall not be wrapped until October of the year when planted. Wrap shall be removed in the following spring. The wrapping shall be securely tied at the top and bottom and at 18-inch maximum intervals with waterproof tape.

3.5 MAINTENANCE DURING PLANTING OPERATION

Installed plant material shall be maintained in a healthy growing condition. Maintenance operations shall begin immediately after each plant is installed to prevent desiccation and shall continue until the plant establishment period commences. Installed areas shall be kept free of weeds, grass, and other undesired vegetation. The maintenance includes maintaining the mulch, watering, and adjusting settling.

3.6 APPLICATION OF PESTICIDE

Herbicides, insecticides, and fungicides shall be applied as needed and in accordance with approved written manufacturer's recommendations. When application of a pesticide becomes necessary to remove a pest or disease, a pesticide treatment plan shall be submitted. A state certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations. Clothing and personal protective equipment shall be used as specified on the pesticide label. The pesticide shall be prevented from coming into contact with the applicator or other persons.

3.7 RESTORATION AND CLEAN UP

Turf areas, pavements and facilities that have been damaged from the planting operation shall be restored to original condition at the Contractor's expense. Excess and waste material shall be removed from the installed area and shall be disposed offsite. Adjacent paved areas shall be cleared.

3.8 MAINTENANCE

Maintenance of plant material shall include straightening plant material, straightening stakes; tightening guying material; correcting girdling; supplementing mulch; pruning dead or broken branch tips; maintaining plant material labels; watering; eradicating weeds, insects and disease; post-fertilization; and removing and replacing unhealthy plants.

a. Watering Plant Material. The plant material shall be watered as necessary to prevent desiccation and to maintain an adequate supply of moisture within the root zone. All watering shall be done in a manner which will provide uniform coverage but which will not cause erosion or damage to the finished surface. Water shall not be applied with a force sufficient to displace mulch and shall not be applied at such a rate that it cannot be absorbed by the mulch and plants.

b. Weeding. Grass and weeds in the installed areas shall not be allowed to reach a maximum 3 inches height before being completely removed, including the root system.

c. Post-Fertilization. The plant material shall be topdressed at least once during the period of establishment with controlled release fertilizer. Apply at the rate of 2 pounds per 100 square feet of plant pit or bed area. Dry fertilizer adhering to plants shall be flushed off. The application shall be timed prior to the advent of winter dormancy. Fertilizer in packet or tablet form shall be placed prior to backfilling and in accordance with the approved manufacturer's written recommendations.

d. Unhealthy Plant Material. A tree shall be considered unhealthy or

dead when the main leader has died back, or up to a maximum 25 percent of the crown has died. A shrub shall be considered unhealthy or dead when up to a maximum 25 percent of the plant has died. This condition shall be determined by scraping on a branch an area 1/16 inch square, maximum, to determine if there is a green cambium layer below the bark. The Contractor shall determine the cause for unhealthy plant material and shall provide recommendations for replacement. Unhealthy or dead plant material shall be removed immediately and shall be replaced as soon as seasonal conditions permit.

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SECTION 03100

STRUCTURAL CONCRETE FORMWORK

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.

ACI INTERNATIONAL (ACI)

ACI 347R	(1994) Guide to Formwork for Concrete

AMERICAN HARDBOARD ASSOCIATION (AHA)

AHA ANSI/AHA A135.4	(1995) Basic Hardboard

DEPARTMENT OF COMMERCE (DOC)

DOC PS 1	(1996) Voluntary Product Standard - Construction and Industrial Plywood

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Formwork;

Drawings showing details of formwork, including dimensions of joints, supports, studding and shoring, and sequence of form and shoring removal.

SD-03 Product Data

Design;

Design analysis and calculations for form design and methodology used in the design.

Form Materials;

Manufacturer's data including literature describing form materials, accessories, and form releasing agents.

Form Releasing Agents;

Manufacturer's recommendation on method and rate of application of form releasing agents.

1.3 DESIGN

Formwork shall be designed in accordance with methodology of ACI 347R for anticipated loads, lateral pressures, and stresses. Forms shall be capable of producing a surface which meets the requirements of the class of finish specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE. Forms shall be capable of withstanding the pressures resulting from placement and vibration of concrete.

PART 2 PRODUCTS

2.1 FORM MATERIALS

2.1.1 Forms For Class A and Class B Finish

Forms for Class A and Class B finished surfaces shall be plywood panels conforming to DOC PS 1, Grade B-B concrete form panels, Class I or II. Other form materials or liners may be used provided the smoothness and appearance of concrete produced will be equivalent to that produced by the plywood concrete form panels. Forms for round columns shall be the prefabricated seamless type.

2.1.2 Forms For Class C Finish

Forms for Class C finished surfaces shall be shiplap lumber; plywood conforming to DOC PS 1, Grade B-B concrete form panels, Class I or II; tempered concrete form hardboard conforming to AHA ANSI/AHA A135.4; other approved concrete form material; or steel, except that steel lining on wood sheathing shall not be used. Forms for round columns may have one vertical seam.

2.1.3 Forms For Class D Finish

Forms for Class D finished surfaces, except where concrete is placed against earth, shall be wood or steel or other approved concrete form material.

2.1.4 Pan-Form Units

Pan-form units for one-way or two-way concrete joist and slab construction shall be factory-fabricated units of the approximate section indicated. Units shall consist of steel or molded fiberglass concrete form pans. Closure units shall be furnished as required.

2.1.5 Form Ties

Form ties shall be factory-fabricated metal ties, shall be of the removable or internal disconnecting or snap-off type, and shall be of a design that will not permit form deflection and will not spall concrete upon removal. Solid backing shall be provided for each tie. Except where removable tie rods are used, ties shall not leave holes in the concrete surface less than 1/4 inch nor more than 1 inch deep and not more than 1 inchin diameter. Removable tie rods shall be not more than 1-1/2 inches in diameter.

2.1.6 Form Releasing Agents

Form releasing agents shall be commercial formulations that will not bond with, stain or adversely affect concrete surfaces. Agents shall not impair subsequent treatment of concrete surfaces depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Formwork

Forms shall be mortar tight, properly aligned and adequately supported to produce concrete surfaces meeting the surface requirements specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE and conforming to construction tolerance given in TABLE 1. Where concrete surfaces are to have a Class A or Class B finish, joints in form panels shall be arranged as approved. Where forms for continuous surfaces are placed in successive units, the forms shall fit over the completed surface to obtain accurate alignment of the surface and to prevent leakage of mortar. Forms shall not be reused if there is any evidence of surface wear and tear or defects which would impair the quality of the surface. Surfaces of forms to be reused shall be cleaned of mortar from previous concreting and of all other foreign material before reuse. Form ties that are to be completely withdrawn shall be coated with a nonstaining bond breaker.

3.2 CHAMFERING

Except as otherwise shown, external corners that will be exposed shall be chamfered, beveled, or rounded by moldings placed in the forms.

3.3 COATING

Forms for Class A and Class B finished surfaces shall be coated with a form releasing agent before the form or reinforcement is placed in final position. The coating shall be used as recommended in the manufacturer's printed or written instructions. Forms for Class C and D finished surfaces may be wet with water in lieu of coating immediately before placing concrete, except that in cold weather with probable freezing temperatures, coating shall be mandatory. Surplus coating on form surfaces and coating on reinforcing steel and construction joints shall be removed before placing concrete.

3.4 REMOVAL OF FORMS

Forms shall be removed preventing injury to the concrete and ensuring the complete safety of the structure. Formwork for columns, walls, side of beams and other parts not supporting the weight of concrete may be removed when the concrete has attained sufficient strength to resist damage from the removal operation but not before at least 24 hours has elapsed since concrete placement. When the forms are an integral part of the shoring, they shall remain in place until the shoring can be removed. Supporting forms and shores shall not be removed without approval from the Contracting Officer. Supporting forms and shores shall not be removed from beams, slabs, girders, and arches until the structural units are strong enough to carry their own weight and any other construction or natural loads.

Supporting forms or shores shall not be removed before the concrete strength has reached 100 percent of design strength, as determined by field cured cylinders or other approved methods. This strength shall be demonstrated by field-cured test specimens, and by a structural analysis considering the proposed loads in relation to these test strengths and the strength of forming and shoring system. In the determination of the time for the removal of falsework, consideration shall be given to the location and character of the structure, to the weather and other conditions influencing the setting of the concrete, and to the materials used in the mix. The field-cured test specimens for form removal purposes shall be provided in numbers as chosen by the Contractor and approved by the Contracting Officer, and shall be in addition to those required for concrete quality control. At least two cylinders shall be tested in determining the attained strength of concrete for the purpose of removal of falsework. The average of test results for the two cylinders shall be used to determine compliance, except that neither cylinder may be less than ten percent below the required strength. The specimens shall be removed from molds at the age of 24 hours and shall receive, in so far as possible, the same curing and protection as the structures they represent.

Supporting falsework shall be loosened and removed in a manner that will permit the concrete to uniformly and gradually take the stresses due to its own mass. Methods of falsework removal likely to cause over stressing of the concrete shall not be used.

The Contracting Officer reserves the right to determine the time when falsework may be removed either by the use of test cylinders or by the use of equivalent curing days as specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE, paragraph OPENING TO SERVICE.

3.4.1 Special Requirements for Bridge Superstructures

In addition to the above, the following special requirements shall apply to the bridge superstructures.

Deck forms and falsework shall not be removed until all of the following are satisfied:

1. The 14-day moist curing period has elapsed.
2. All superstructure concrete has attained its final design strength (f'c = 4000 psi) as measured from the compressive strength testing of field cured cylinders.
3. The internal concrete temperature as measured by thermocouples is within 30 deg F of the ambient temperature, and reducing. (eg. the air is less than 30 deg F cooler than the concrete in the morning, but the air temperature is climbing).

The release of falsework shall start at or near the center of a span for the full width of the span and progress simultaneously toward both ends of the span unless otherwise authorized. On continuous span concrete superstructures, with or without cantilevers and hinges, release of falsework shall progress simultaneously and uniformly in all spans unless otherwise authorized. The falsework shall not be removed from any one span until the concrete in an entire unit of continuous spans has been cured for the required period of time.

TABLE 1

TOLERANCES FOR FORMED SURFACES

1.	Variations from the plumb in the lines and surfaces of columns, piers, walls and in arises:	In any 10 feet of length ---------- 1/4 inch Maximum for entire length ---------- 1/2 inch
2.	Variation from the level or from the grades indicated on the drawings:	In any 10 feet of length ---------- 1/8 inch
3.	Variation of the linear structure lines from established position in plan:	In any 20 feet --------- 1/2 inch Maximum ---------- 1 inch
4.	Variation of distance between adjacent substructure units:	Plus/Minus ---------- 1 inch
5.	Variation in cross-sectional dimensions of piers, walls, and abutments:	Minus ---------- 1/4 inch Plus ---------- 1/2 inch
6.	Variation in cross-sectional dimensions of the thickness of bridge superstructure:	Minus ---------- 0 inch Plus ---------- 1/2 inch
7.	Footings:	
	a. Variation of dimensions in plan	Minus ---------- 1/2 inch Plus ---------- 2 inches when formed or plus 3 inches when placed against unformed excavation
	b. Misplacement of eccentricity	2 percent of the footing width in the direction of misplacement but not more than 2 inches
	c. Reduction in thickness of specified thickness	Minus ---------- 5 percent

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SECTION 03200

CONCRETE REINFORCEMENT

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.

ACI INTERNATIONAL (ACI)

ACI 318/318R	(1999) Building Code Requirements for Structural Concrete and Commentary

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO HB-17	(2002) Standard Specifications for Highway Bridges

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 615/A 615M	(1996ael) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 706/A 706M	(1998) Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

AMERICAN WELDING SOCIETY (AWS)

AWS D1.4	(1998) Structural Welding Code - Reinforcing Steel

CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

CRSI MSP-1	(1996) Manual of Standard Practice

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Reinforcement; G, MAT

Detail drawings showing reinforcing steel placement, schedules,

sizes, grades, and splicing and bending details. Drawings shall show support details including types, sizes and spacing.

SD-03 Product Data

Welding;

A list of qualified welders names.

SD-07 Certificates

Reinforcing Steel;

Certified copies of mill reports attesting that the reinforcing steel furnished contains no less than 25 percent recycled scrap steel and meets the requirements specified herein, prior to the installation of reinforcing steel.

Splicing Lap Lengths;

Certified copies of schedules for splice lengths for all reinforcing bars scheduled for different uses and locations including top bars.

1.3 WELDING

Welders shall be qualified in accordance with AWS D1.4. Qualification test shall be performed at the worksite and the Contractor shall notify the Contracting Officer 24 hours prior to conducting tests. Special welding procedures and welders qualified by others may be accepted as permitted by AWS D1.4.

1.4 DELIVERY AND STORAGE

Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

PART 2 PRODUCTS

2.1 REINFORCING STEEL

Reinforcing steel shall be deformed bars conforming to ASTM A 615/A 615M or ASTM A 706/A 706M, Grade 60, sizes as indicated.

2.2 WIRE TIES

Wire ties shall be 16 gauge or heavier black annealed steel wire.

2.3 SUPPORTS

Bar supports for formed surfaces shall be designed and fabricated in accordance with CRSI MSP-1 and shall be steel or precast concrete blocks. Precast concrete blocks shall have wire ties and shall be not less than 4 inches square when supporting reinforcement on ground. Precast concrete block shall have compressive strength equal to that of the surrounding concrete. Where concrete formed surfaces will be exposed to weather or where surfaces are to be painted, steel supports within 1/2 inch of concrete surface shall be galvanized, plastic protected or of stainless steel. Concrete supports used in concrete exposed to view will not be

allowed.

PART 3 EXECUTION

3.1 REINFORCEMENT

Reinforcement shall be fabricated to shapes and dimensions shown and shall conform to the requirements of ACI 318/318R. Reinforcement hooks shall be as outlined in ACI 318/318R or AASHTO HB-17 unless shown otherwise on Drawings. Reinforcement shall be cold bent unless otherwise authorized. Bending may be accomplished in the field or at the mill. Bars shall not be bent after embedment in concrete. Safety caps shall be placed on all exposed ends of vertical concrete reinforcement bars that pose a danger to life safety. Wire tie ends shall face away from the forms.

3.1.1 Placement

Reinforcement shall be free from loose rust and scale, dirt, oil, or other deleterious coating that could reduce bond with the concrete. Reinforcement shall be placed in accordance with ACI 318/318R at locations shown plus or minus one bar diameter. Reinforcement shall not be continuous through expansion joints and shall be as indicated through construction or contraction joints. Concrete coverage shall be as indicated or as required by ACI 318/318R. If bars are moved more than one bar diameter to avoid interference with other reinforcement, conduits or embedded items, the resulting arrangement of bars, including additional bars required to meet structural requirements, shall be approved before concrete is placed.

3.1.2 Splicing

Splices of reinforcement shall conform to ACI 318/318R and shall be made only as required or indicated. Splicing shall be by lapping, except that lap splices shall not be used for bars larger than No. 11 unless otherwise indicated. Lapped bars shall be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than one-fifth the required length of lap or 6 inches.

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SECTION 03300

CAST-IN-PLACE STRUCTURAL CONCRETE

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.

ACI INTERNATIONAL (ACI)

ACI 117/117R	(1990; Errata) Standard Tolerances for Concrete Construction and Materials
ACI 211.1	(1991) Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
ACI 214.3R	(1988) Simplified Version of the Recommended Practice for Evaluation of Strength Test Results of Concrete
ACI 305R	(1991) Hot Weather Concreting
ACI 306R	(1998) Cold Weather Concreting
ACI 318/318R	(1999) Building Code Requirements for Structural Concrete and Commentary

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 182	(1991; R 1996) Burlap Cloth Made From Jute or Kenaf

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31/C 31M	(1998) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(1999ael) Concrete Aggregates
ASTM C 39	(1996) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 42	(1999) Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C 78	(1994) Flexural Strength of Concrete (Using Simple Beam With Third-Point Loading)

ASTM C 94	(1999) Ready-Mixed Concrete
ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 143	(1998) Slump of Hydraulic Cement Concrete
ASTM C 150	(1999a) Portland Cement
ASTM C 171	(1997a) Sheet Materials for Curing Concrete
ASTM C 172	(1999) Sampling Freshly Mixed Concrete
ASTM C 173	(1994ael) Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 192/C 192M	(1998) Making and Curing Concrete Test Specimens in the Laboratory
ASTM C 231	(1997el) Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 260	(1998) Air-Entraining Admixtures for Concrete
ASTM C 309	(1998a) Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	(1999) Chemical Admixtures for Concrete
ASTM C 618	(1999) Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM C 881	(1999) Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C 940	(1998a) Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory
ASTM C 989	(1999) Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM C 1017	(1998) Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C 1059	(1999) Latex Agents for Bonding Fresh to Hardened Concrete
ASTM C 1064/C 1064M	(1999) Temperature of Freshly Mixed Portland Cement Concrete
ASTM C 1074	(1998) Estimating Concrete Strength by the Maturity Method
ASTM C 1077	(1998) Laboratories Testing Concrete and Concrete Aggregates for Use in

	Construction and Criteria for Laboratory Evaluation
ASTM C 1107	(1999) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
ASTM D 75	(1987; R 1997) Sampling Aggregates
ASTM D 4397	(2000) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

CORPS OF ENGINEERS (COE)

COE CRD-C 94	(1995) Surface Retarders
COE CRD-C 104	(1980) Method of Calculation of the Fineness Modulus of Aggregate
COE CRD-C 400	(1963) Requirements for Water for Use in Mixing or Curing Concrete
COE CRD-C 521	(1981) Standard Test Method for Frequency and Amplitude of Vibrators for Concrete

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 2401	Standard Specifications for Construction (2000 Edition), Concrete Bridge Construction
MNDOT 2481	Standard Specifications for Construction (2000 Edition), Waterproofing
MNDOT 2545	Standard Specifications for Construction (2000 Edition), Electric Lighting Systems
MNDOT 3702	Standard Specifications for Construction (2000 Edition), Preformed Joint Fillers
MNDOT 3803	Standard Specifications for Construction (2000 Edition), Non-Metallic Conduit

NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

NRMCA CPMB 100	(1996) Concrete Plant Standards
NRMCA TMMB 100	(1994) Truck Mixer Agitator and Front Discharge Concrete Carrier Standards
NRMCA QC 3	(1984) Quality Control Manual: Section 3, Plant Certifications Checklist: Certification of Ready Mixed Concrete Production Facilities

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Mixture Proportions; G, MAT

The results of trial mixture design studies along with a statement giving the maximum nominal coarse aggregate size and the proportions of ingredients that will be used in the manufacture of each strength or class of concrete, at least 14 days prior to commencing concrete placing operations. Aggregate weights shall be based on the saturated surface dry condition. The statement shall be accompanied by test results from an approved independent commercial testing laboratory, showing that mixture design studies have been made with materials proposed for the project and that the proportions selected will produce concrete of the qualities indicated. No substitutions shall be made in the materials used in the mixture design studies without additional tests to show that the quality of the concrete is satisfactory.

SD-06 Test Reports

Testing and Inspection for Contractor Quality Control;

Certified copies of laboratory test reports, including mill tests and all other test data, for portland cement, blended cement, pozzolan, ground granulated blast furnace slag, aggregate, admixtures, and curing compound proposed for use on this project.

SD-07 Certificates

Qualifications;

Written documentation for Contractor Quality Control personnel.

1.3 QUALIFICATIONS

Contractor Quality Control personnel assigned to concrete construction shall be American Concrete Institute (ACI) Certified Workmen in one of the following grades or shall have written evidence of having completed similar qualification programs:

Concrete Field Testing Technician, Grade I
Concrete Laboratory Testing Technician, Grade I or II
Concrete Construction Inspector, Level II

Concrete Transportation Construction Inspector or
Reinforced Concrete Special Inspector, Jointly certified by American Concrete Institute (ACI).

The foreman or lead journeyman of the flatwork finishing crew shall have similar qualification for ACI Concrete Flatwork Technician/Finisher or equal, with written documentation.

1.4 GENERAL REQUIREMENTS

1.4.1 Tolerances

Except as otherwise specified herein, tolerances for concrete batching, mixture properties, and construction as well as definition of terms and application practices shall be in accordance with ACI 117/117R. Level and grade tolerance measurements of slabs shall be made as soon as possible after finishing; when forms or shoring are used, the measurements shall be made prior to removal.

1.4.2 Strength Requirements and w/c Ratio

1.4.2.1 Strength Requirements

Specified compressive strength (f'c) shall be as follows:

COMPRESSIVE STRENGTH	STRUCTURE OR PORTION OF STRUCTURE
3500 psi at 28 days	All substructure units, parapets, and concrete not otherwise designated
4000 psi at 56 days	Superstructure only

Concrete made with high-early strength cement shall have a 7-day strength equal to the specified 28-day strength for concrete made with Type I or II portland cement. Compressive strength shall be determined in accordance with ASTM C 39.

a. Evaluation of Concrete Compressive Strength. Compressive strength specimens (6 by 12 inch cylinders) shall be fabricated by the Contractor and laboratory cured in accordance with ASTM C 31/C 31M and tested in accordance with ASTM C 39. The strength of the concrete will be considered satisfactory so long as the average of all sets of three consecutive test results equals or exceeds the specified compressive strength f'c and no individual test result falls below the specified strength f'c by more than 500 psi. A "test" is defined as the average of two companion cylinders, or if only one cylinder is tested, the results of the single cylinder test. Additional analysis or testing, including taking cores and/or load tests may be required at the Contractor's expense when the strength of the concrete in the structure is considered potentially deficient.

b. Investigation of Low-Strength Compressive Test Results. When any strength test of standard-cured test cylinders falls below the specified strength requirement by more than 500 psi or if tests of field-cured cylinders indicate deficiencies in protection and curing, steps shall be taken to assure that the load-carrying capacity of the structure is not jeopardized. When the strength of concrete in place is considered potentially deficient, cores shall be obtained and tested in accordance with ASTM C 42. At least three representative cores shall be taken from each member or area of concrete in place that is considered potentially deficient. The location of cores will be determined by the Contracting Officer to least impair the strength of the structure. Concrete in the area represented by the core testing will be considered adequate if the average strength of the cores is equal to at least 85 percent of the specified strength requirement and

if no single core is less than 75 percent of the specified strength requirement. Non-destructive tests (tests other than test cylinders or cores) shall not be used as a basis for acceptance or rejection. The Contractor shall perform the coring and repair the holes. Cores will be tested by the Government.

c. Load Tests. If the core tests are inconclusive or impractical to obtain or if structural analysis does not confirm the safety of the structure, load tests may be directed by the Contracting Officer in accordance with the requirements of ACI 318/318R. Concrete work evaluated by structural analysis or by results of a load test as being understrength shall be corrected in a manner satisfactory to the Contracting Officer. All investigations, testing, load tests, and correction of deficiencies shall be performed by and at the expense of the Contractor and must be approved by the Contracting Officer, except that if all concrete is found to be in compliance with the drawings and specifications, the cost of investigations, testing, and load tests will be at the expense of the Government.

1.4.2.2 Water-Cement Ratio

Maximum water-cement ratio (w/c) for normal weight concrete shall be as follows:

WATER-CEMENT RATIO, BY WEIGHT	STRUCTURE OR PORTION OF STRUCTURE
0.45	All substructure units, parapets, and concrete not otherwise designated
0.40	Superstructure only

These w/c's may cause higher strengths than that required above for compressive strength. The maximum w/c required will be the equivalent w/c as determined by conversion from the weight ratio of water to cement plus pozzolan and ground granulated blast furnace slag (GGBF slag) by the weight equivalency method as described in ACI 211.1. In the case where GGBF slag is used, the weight of the GGBF slag shall be included in the equations of ACI 211.1 for the term P which is used to denote the weight of pozzolan.

1.4.3 Air Entrainment

All normal weight concrete shall be air entrained to contain between 4.5 and 7.5 percent total air. Specified air content shall be attained at point of placement into the forms. Air content for normal weight concrete shall be determined in accordance with ASTM C 231.

1.4.4 Slump

Slump of the concrete, as delivered to the point of placement into the forms, shall be within the following limits. Slump shall be determined in accordance with ASTM C 143.

Structural Element	Slump Minimum	Slump Maximum
Columns and beams	2 in.	4 in.

Structural Element	Slump Minimum	Slump Maximum
Substructure walls, footings, slabs	1 in.	3 in.
Any structural concrete approved for placement by pumping:		
At pump	2 in.	6 in.
At discharge of line	1 in.	4 in.

When use of a plasticizing admixture conforming to ASTM C 1017 or when a Type F or G high range water reducing admixture conforming to ASTM C 494 is permitted to increase the slump of concrete, concrete shall have a slump of 2 to 4 inches before the admixture is added and a maximum slump of 8 inches at the point of delivery after the admixture is added.

1.4.5 Concrete Temperature

The maximum temperature of the concrete as delivered and placed shall be 90 degrees F and as specified in paragraph Hot Weather Requirements in Part 3. The minimum temperature of the concrete as delivered and placed shall meet the requirements of ACI 306R, Table 3.1.

1.4.6 Size of Coarse Aggregate

The largest feasible nominal maximum size aggregate (NMSA) specified in paragraph AGGREGATES shall be used in each placement. However, nominal maximum size of aggregate shall not exceed any of the following: three-fourths of the minimum cover for reinforcing bars, three-fourths of the minimum clear spacing between reinforcing bars, one-fifth of the narrowest dimension between sides of forms, or one-third of the thickness of slabs or toppings, or (if Contractor intends to pump concrete) a maximum of 1-1/2 inches.

1.4.7 Special Properties and Products

Concrete may contain admixtures other than air entraining agents, such as water reducers, superplasticizers, or set retarding agents to provide special properties to the concrete, if specified or approved. Any of these materials to be used on the project shall be used in the mix design studies. It is the Contractor's responsibility to become knowledgeable about the nature of admixtures, their advantages, and the problems connected with their use because concrete admixtures produce side effects that can be beneficial, harmless, or harmful to the concrete, depending on the situation. The Contractor shall be aware of the concrete plant adjustments required to accommodate the use of an admixture: handling, storage, preparations, and dispensing. Special storage may be required if an admixture is sensitive to temperature, or if the admixture coagulates and settles without being stirred. If more than one admixture is used in a mix, the admixtures shall be compatible with each other and shall all be added separately into each mixture.

1.5 MIXTURE PROPORTIONS

Concrete shall be composed of portland cement, other cementitious and pozzolanic materials as specified, aggregates, water and admixtures as

specified.

1.5.1 Proportioning Studies for Normal Weight Concrete

Trial design batches, mixture proportioning studies, and testing requirements for various classes and types of concrete specified shall be the responsibility of the Contractor. Mixture proportions shall be based on compressive strength as determined by test specimens fabricated in accordance with ASTM C 192/C 192M and tested in accordance with ASTM C 39. Samples of all materials used in mixture proportioning studies shall be representative of those proposed for use in the project and shall be accompanied by the manufacturer's or producer's test reports indicating compliance with these specifications. Trial mixtures having proportions, consistencies, and air content suitable for the work shall be made based on methodology described in ACI 211.1, using at least three different water-cement ratios for each type of mixture, which will produce a range of strength encompassing those required for each class and type of concrete required on the project. The maximum water-cement ratios required in subparagraph Water-Cement Ratio will be the equivalent water-cement ratio as determined by conversion from the weight ratio of water to cement plus pozzolan and ground granulated blast furnace slag (GGBF slag) by the weight equivalency method as described in ACI 211.1. In the case where GGBF slag is used, the weight of the GGBF slag shall be included in the equations in ACI 211.1 for the term P, which is used to denote the weight of pozzolan. If pozzolan is used in the concrete mixture, the minimum pozzolan content shall be 15 percent by weight of the total cementitious material, and the maximum shall be 35 percent. Laboratory trial mixtures shall be designed for maximum permitted slump and air content. Separate sets of trial mixture studies shall be made for each combination of cementitious materials and each combination of admixtures proposed for use. No combination of either shall be used until proven by such studies, except that, if approved in writing and otherwise permitted by these specifications, an accelerator or a retarder may be used without separate trial mixture study. Separate trial mixture studies shall also be made for concrete for any conveying or placing method proposed which requires special properties and for concrete to be placed in unusually difficult placing locations. The temperature of concrete in each trial batch shall be reported. For each water-cement ratio, at least three test cylinders for each test age shall be made and cured in accordance withASTM C 192/C 192M. They shall be tested at 7 and 28 days in accordance with ASTM C 39. From these test results, a curve shall be plotted showing the relationship between water-cement ratio and strength for each set of trial mix studies. In addition, a curve shall be plotted showing the relationship between 7 day and 28 day strengths. Each mixture shall be designed to promote easy and suitable concrete placement, consolidation and finishing, and to prevent segregation and excessive bleeding.

1.5.2 Average Compressive Strength Required for Mixtures

The mixture proportions selected during mixture design studies shall produce a required average compressive strength (f'cr) exceeding the specified compressive strength (f'c) by the amount indicated below. This required average compressive strength, f'cr, will not be a required acceptance criteria during concrete production. However, whenever the daily average compressive strength at 28 days (56 days for superstructure) drops below f'cr during concrete production, or daily average 7-day strength drops below a strength correlated with the f'cr for 28 days (56 days for superstructure), the mixture shall be adjusted, as approved, to bring the daily average back up to f'cr. During production, the required

f'cr shall be adjusted, as appropriate, based on the standard deviation being attained on the job.

1.5.2.1 Computations from Test Records

Where a concrete production facility has test records, a standard deviation shall be established in accordance with the applicable provisions of ACI 214.3R. Test records from which a standard deviation is calculated shall represent materials, quality control procedures, and conditions similar to those expected; shall represent concrete produced to meet a specified strength or strengths (f'c) within 1,000 psi of that specified for proposed work; and shall consist of at least 30 consecutive tests. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days. Required average compressive strength f'cr used as the basis for selection of concrete proportions shall be the larger of the equations that follow using the standard deviation as determined above:

f'cr = f'c + 1.34S where units are in psi

f'cr = f'c + 2.33S - 500 where units are in psi

Where S = standard deviation

Where a concrete production facility does not have test records meeting the requirements above but does have a record based on 15 to 29 consecutive tests, a standard deviation shall be established as the product of the calculated standard deviation and a modification factor from the following table:

NUMBER OF TESTS	MODIFICATION FACTOR FOR STANDARD DEVIATION
15	1.16
20	1.08
25	1.03
30 or more	1.00

1.5.2.2 Computations without Previous Test Records

When a concrete production facility does not have sufficient field strength test records for calculation of the standard deviation, the required average strength f'cr shall be determined as follows:

a. If the specified compressive strength f'c is less than 3,000 psi,

f'cr = f'c + 1000 psi

b. If the specified compressive strength f'c is 3,000 to 5,000 psi,

f'cr = f'c + 1,200 psi

c. If the specified compressive strength f'c is over 5,000 psi,

f'cr = f'c + 1,400 psi

1.5.3 Special Requirements for Bridge Superstructure Concrete

In addition to the above, the following special requirements shall apply to

the bridge superstructure concrete. In these specifications, bridge superstructure concrete is defined to include all concrete above the tops of bridge abutments and piers, except the concrete parapets.

1.5.3.1 Concrete Mixture

Mandatory:

1. Limit cementitious materials content to 565 lb/cy maximum, preferably 500 lb/cy.
2. Class F Fly ash or Grade 100 or Grade 120 ground-granulated blast furnace slag shall be used in the superstructure to replace 30% of the required cementitious materials content.
3. Maximize the nominal size of large aggregate (if contractor intends to pump the concrete, maximum aggregate size will be limited to 1.5 inches).
4. Maximize coarse aggregate content to approximately 1800-1850 lb/cy.
5. Maximize fine aggregate content to approximately 1200 lb/cy.
6. Limit water to total cementitious material ratio to 0.40 maximum by weight.
7. Air content shall be 5.5% minimum to 7.5% maximum.
8. Accelerators shall NOT be used to accelerate the set time of plastic concrete and the rate of strength gain.
9. Set-retarders shall be used to extend the plastic period without subsequently affecting strength gain significantly.
10. Water-reducers shall be used to reduce the cement content for a given strength and slump. It is acceptable to use a low-range water-reducing admixture, a mid-range water-reducing admixture, and/or a high-range water reducer.
11. The use of shrinkage-reducing admixtures is discouraged. If shrinkage-reducing admixtures are used, then they must be used in conjunction with synthetic air entraining admixtures.

Optional:

1. Use Type K (non-shrink) cement.

1.6 STORAGE OF MATERIALS

Cement and other cementitious materials shall be stored in weathertight buildings, bins, or silos which will exclude moisture and contaminants and keep each material completely separated. Aggregate stockpiles shall be arranged and used in a manner to avoid excessive segregation and to prevent contamination with other materials or with other sizes of aggregates. Aggregate shall not be stored directly on ground unless a sacrificial layer is left undisturbed. Reinforcing bars and accessories shall be stored above the ground on platforms, skids or other supports. Other materials shall be stored in such a manner as to avoid contamination and deterioration. Admixtures which have been in storage at the project site for longer than 6 months or which have been subjected to freezing shall not be used unless retested and proven to meet the specified requirements. Materials shall be capable of being accurately identified after bundles or containers are opened.

1.7 GOVERNMENT ASSURANCE INSPECTION AND TESTING

Day-to day inspection and testing shall be the responsibility of the Contractor Quality Control (CQC) staff. However, representatives of the Contracting Officer can and will inspect construction as considered

appropriate and will monitor operations of the Contractor's CQC staff. Government inspection or testing will not relieve the Contractor of any of his CQC responsibilities.

1.7.1 Materials

The Government will sample and test aggregates, cementitious materials, other materials, and concrete to determine compliance with the specifications as considered appropriate. The Contractor shall provide facilities and labor as may be necessary for procurement of representative test samples. Samples of aggregates will be obtained at the point of batching in accordance with ASTM D 75. Other materials will be sampled from storage at the jobsite or from other locations as considered appropriate. Samples may be placed in storage for later testing when appropriate.

1.7.2 Fresh Concrete

Fresh concrete will be sampled as delivered in accordance with ASTM C 172 and tested in accordance with these specifications, as considered necessary.

1.7.3 Hardened Concrete

Tests on hardened concrete will be performed by the Government when such tests are considered necessary.

1.7.4 Inspection

Concrete operations may be tested and inspected by the Government as the project progresses. Failure to detect defective work or material will not prevent rejection later when a defect is discovered nor will it obligate the Government for final acceptance.

PART 2 PRODUCTS

2.1 CEMENTITIOUS MATERIALS

Cementitious materials shall be portland cement, or portland cement in combination with pozzolan or GGBF slag, and shall conform to appropriate specifications listed below. Use of cementitious materials in concrete which will have surfaces exposed in the completed structure shall be restricted so there is no change in color, source, or type of cementitious material.

2.1.1 Portland Cement

ASTM C 150, Type I with a maximum 15 percent amount of tricalcium aluminate, or Type II. Type K (non-shrink) cement may be used for bridge superstructures as specified in paragraph "MIXTURE PROPORTIONS".

2.1.2 High-Early-Strength Portland Cement

ASTM C 150, Type III with tricalcium aluminate limited to 8 percent, low alkali. Type III cement shall be used only in isolated instances and only when approved in writing.

2.1.3 Pozzolan (Fly Ash)

ASTM C 618, Class F with the optional requirements for multiple factor,

drying shrinkage, and uniformity from Table 2A of ASTM C 618. Requirement for maximum alkalies from Table 1A of ASTM C 618 shall apply. Pozzolan (or GGBF) shall be used in the concrete mixture for bridge superstructures, piers, and may be used elsewhere at the Contractor's option. Comply with the requirements of subparagraphs "Special Requirements for Bridge Superstructure Concrete" and "Proportioning Studies for Normal Weight Concrete", respectively, of paragraph "MIXTURE PROPORTIONS".

2.1.4 Ground Granulated Blast-Furnace (GGBF) Slag

ASTM C 989, Grade 100 or 120. GGBF (or pozzolan) shall be used in the concrete mixture for bridge superstructures, and may be used elsewhere at the Contractor's option. Comply with the requirements of subparagraphs "Special Requirements for Bridge Superstructure Concrete" and "Proportioning Studies for Normal Weight Concrete", respectively, of paragraph "MIXTURE PROPORTIONS".

2.2 AGGREGATES

Aggregates shall conform to the following.

2.2.1 Fine Aggregate

Fine aggregate shall conform to the quality and gradation requirements of ASTM C 33.

2.2.2 Coarse Aggregate

Coarse aggregate shall conform to ASTM C 33, Class 5S, size designation 1-1/2 inches to No. 4.

2.3 CHEMICAL ADMIXTURES

Chemical admixtures, when required or permitted, shall conform to the appropriate specification listed. Admixtures shall be furnished in liquid form and of suitable concentration for easy, accurate control of dispensing.

2.3.1 Air-Entraining Admixture

ASTM C 260 and shall consistently entrain the air content in the specified ranges under field conditions.

2.3.2 Accelerating Admixture

ASTM C 494, Type C or E, except that calcium chloride or admixtures containing calcium chloride shall not be used.

2.3.3 Water-Reducing or Retarding Admixture

ASTM C 494, Type A, B, or D, except that the 6-month and 1-year compressive and flexural strength tests are waived.

2.3.4 High-Range Water Reducer

ASTM C 494, Type F or G, except that the 6-month and 1-year strength requirements are waived. The admixture shall be used only when approved in writing, such approval being contingent upon particular mixture control as described in the Contractor's Quality Control Plan and upon performance of separate mixture design studies.

2.3.5 Other Chemical Admixtures

Chemical admixtures for use in producing flowing concrete shall comply with ASTM C 1017, Type I or II. These admixtures shall be used only when approved in writing, such approval being contingent upon particular mixture control as described in the Contractor's Quality Control Plan and upon performance of separate mixture design studies.

2.4 CURING MATERIALS

2.4.1 Impervious-Sheet

Impervious-sheet materials shall conform to ASTM C 171, type optional, except, that polyethylene sheet shall not be used.

2.4.2 Membrane-Forming Compound

Membrane-forming compound shall comply with ASTM C 309, Type 1-D, clear or translucent with fugitive dye

2.4.3 Burlap and Cotton Mat

Burlap and cotton mat used for curing shall conform to AASHTO M 182.

2.5 WATER

Water for mixing and curing shall be fresh, clean, potable, and free of injurious amounts of oil, acid, salt, or alkali, except that non-potable water may be used if it meets the requirements of COE CRD-C 400.

2.6 NONSHRINK GROUT

Nonshrink grout shall conform to ASTM C 1107, Grade C, and shall be a commercial formulation suitable for the proposed application.

2.7 LATEX BONDING AGENT

Latex agents for bonding fresh to hardened concrete shall conform to ASTM C 1059.

2.8 EPOXY RESIN

Epoxy resins for use in repairs shall conform to ASTM C 881, Type V, Grade 2. Class as appropriate to the existing ambient and surface temperatures.

2.9 EMBEDDED ITEMS

Embedded items shall be of the size and type indicated or as needed for the application. Inserts for bolt hangers shall be of malleable iron or cast or wrought steel.

2.10 NON-METALLIC CONDUIT

Non-metallic conduit complying with the requirements of MNDOT 3803.

2.11 PREFORMED JOINT FILLER

Preformed joint filler complying with the requirements of MNDOT 3702.

2.12 JOINT WATERPROOFING

Waterproofing complying with MNDOT 2481. This product shall be used on construction joints at the backface of abutments as shown on the plans.

2.13 POLYETHYLENE SHEETING

6 mil or thicker polyethylene sheeting conforming to ASTM D 4397.

2.14 PROTECTIVE SURFACE TREATMENT

Silane or siloxane-based penetrating sealer designed to protect concrete surfaces from water, salts, and airborne contaminants. Sealer shall be compliant with federal VOC requirements. Provide TK Products/TK-290 WB Tri-Siloxane, ChemRex/Masterseal SL 40 VOC, Vexcon Chemical/Powerseal 40, or approved equal.

PART 3 EXECUTION

3.1 PREPARATION FOR PLACING

Before commencing concrete placement, the following shall be performed. Surfaces to receive concrete shall be clean and free from frost, ice, mud, and water. Forms shall be in place, cleaned, coated, and adequately supported, in accordance with Section 03100 STRUCTURAL CONCRETE FORMWORK. Reinforcing steel shall be in place, cleaned, tied, and adequately supported, in accordance with Section 03200 CONCRETE REINFORCEMENT. Transporting and conveying equipment shall be in-place, ready for use, clean, and free of hardened concrete and foreign material. Equipment for consolidating concrete shall be at the placing site and in proper working order. Equipment and material for curing and for protecting concrete from weather or mechanical damage shall be at the placing site, in proper working condition and in sufficient amount for the entire placement. When hot, windy conditions during concreting appear probable, equipment and material shall be at the placing site to provide windbreaks, shading, fogging, or other action to prevent plastic shrinkage cracking or other damaging drying of the concrete.

3.1.1 Foundations

3.1.1.1 Concrete on Earth Foundations

Earth (subgrade, base, or subbase courses) surfaces upon which concrete is to be placed shall be clean, damp, and free from debris, frost, ice, and standing or running water. Prior to placement of concrete, the foundation shall be well drained and shall be satisfactorily graded and uniformly compacted.

3.1.2 Previously Placed Concrete

Before fresh concrete is placed against concrete that has previously set, the surface of the set concrete shall be thoroughly cleaned of all loose material, laitance dirt, and other foreign matter. Superstructure concrete surfaces to which additional concrete is to be bonded shall be prepared for receiving the next horizontal lift by cleaning the construction joint surface with either air-water cutting, sandblasting, high-pressure water jet, or other approved method. Concrete at the side of vertical construction joints shall be prepared as approved by the Contracting

Officer. Air-water cutting shall not be used on formed surfaces or surfaces congested with reinforcing steel. Regardless of the method used, the resulting surfaces shall be free from all laitance and inferior concrete so that clean surfaces of well bonded coarse aggregate are exposed and make up at least 10-percent of the surface area, distributed uniformly throughout the surface. The edges of the coarse aggregate shall not be undercut. The surface of horizontal construction joints shall be kept continuously wet for the first 12 hours during the 24-hour period prior to placing fresh concrete. The surface shall be washed completely clean as the last operation prior to placing the next lift.

3.1.2.1 Air-Water Cutting

Air-water cutting of a fresh concrete surface shall be performed at the proper time and only on horizontal construction joints. The air pressure used in the jet shall be 100 psi plus or minus, 10 psi, and the water pressure shall be just sufficient to bring the water into effective influence of the air pressure. When approved by the Contracting Officer, a surface retarder complying with the requirements of COE CRD-C 94 may be applied to the surface of the lift in order to prolong the period of time during which air-water cutting is effective. After cutting, the surface shall be washed and rinsed as long as there is any trace of cloudiness of the wash water. Where necessary to remove accumulated laitance, coatings, stains, debris, and other foreign material, high-pressure waterjet or sandblasting shall be used as the last operation before placing the next lift.

3.1.2.2 High-Pressure Water Jet

A stream of water under a pressure of not less than 3,000 psi shall be used for cutting and cleaning. Its use shall be delayed until the concrete is sufficiently hard so that only the surface skin or mortar is removed and there is no undercutting of coarse-aggregate particles. If the waterjet is incapable of a satisfactory cleaning, the surface shall be cleaned by sandblasting.

3.1.2.3 Wet Sandblasting

Wet sandblasting shall be used after the concrete has reached sufficient strength to prevent undercutting of the coarse aggregate particles. After wet sandblasting, the surface of the concrete shall then be washed thoroughly to remove all loose materials.

3.1.2.4 Waste Disposal

The method used in disposing of waste water employed in cutting, washing, and rinsing of concrete surfaces shall be such that the waste water does not stain, discolor, or affect exposed surfaces of the structures, or damage the environment of the project area. The method of disposal shall be subject to approval.

3.1.3 Embedded Items

Before placement of concrete, care shall be taken to determine that all embedded items are firmly and securely fastened in place as indicated on the drawings, or required. Conduit and other embedded items shall be clean and free of oil and other foreign matter such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. Voids in sleeves, inserts, and

anchor slots shall be filled temporarily with readily removable materials to prevent the entry of concrete into voids. Welding shall not be performed on embedded metals within 1 feet of the surface of the concrete. Tack welding shall not be performed on or to embedded items.

3.1.4 Non-Metallic Conduit

Install non-metallic conduit where indicated on Drawings in accordance with MNDOT 2545

3.1.5 Thermocouples

At least one thermocouple per span shall be imbedded in the concrete deck. The thermocouple(s) will aid the contractor to control cracking by measuring the internal concrete temperature, and thereby, the temperature differential between internal concrete and ambient air temperatures. Locate thermocouple(s) at mid-depth in the deck. Locate one thermocouple over each of the 5 piers, and locate 6th thermocouple at midspan of any span as directed by the Contracting Officer. Thermocouple wire shall be run through the concrete and be brought up through the surface at the edge of the deck under where the parapets will be connected. Once the monitoring period is complete, the wires shall be cut off at the concrete surface, and the parapet shall be cast.

3.2 CONCRETE PRODUCTION

3.2.1 Batching, Mixing, and Transporting Concrete

Concrete shall either be batched and mixed onsite or shall be furnished from a ready-mixed concrete plant. Ready-mixed concrete shall be batched, mixed, and transported in accordance with ASTM C 94, except as otherwise specified. Truck mixers, agitators, and nonagitating transporting units shall comply with NRMCA TMMB 100. Ready-mix plant equipment and facilities shall be certified in accordance with NRMCA QC 3. Approved batch tickets shall be furnished for each load of ready-mixed concrete. Site-mixed concrete shall conform to the following subparagraph.

3.2.1.1 General

The batching plant shall be located off site close to the project. The batching, mixing and placing system shall have a capacity of at least 100 cubic yards per hour. The batching plant shall conform to the requirements of NRMCA CPMB 100 and as specified; however, rating plates attached to batch plant equipment are not required.

3.3 TRANSPORTING CONCRETE TO PROJECT SITE

Concrete shall be transported to the placing site in truck mixers or by approved pumping equipment.

3.4 CONVEYING CONCRETE ON SITE

Concrete shall be conveyed from mixer or transporting unit to forms as rapidly as possible and within the time interval specified by methods which will prevent segregation or loss of ingredients using following equipment. Conveying equipment shall be cleaned before each placement.

3.4.1 Buckets

The interior hopper slope shall be not less than 58 degrees from the horizontal, the minimum dimension of the clear gate opening shall be at least 5 times the nominal maximum-size aggregate, and the area of the gate opening shall not be less than 2 square feet.The maximum dimension of the gate opening shall not be greater than twice the minimum dimension. The bucket gates shall be essentially grout tight when closed and may be manually, pneumatically, or hydraulically operated except that buckets larger than 2 cubic yards shall not be manually operated. The design of the bucket shall provide means for positive regulation of the amount and rate of deposit of concrete in each dumping position.

3.4.2 Transfer Hoppers

Concrete may be charged into nonagitating hoppers for transfer to other conveying devices. Transfer hoppers shall be capable of receiving concrete directly from delivery vehicles and shall have conical-shaped discharge features. The transfer hopper shall be equipped with a hydraulically operated gate and with a means of external vibration to effect complete discharge. Concrete shall not be held in nonagitating transfer hoppers more than 30 minutes.

3.4.3 Trucks

Truck mixers operating at agitating speed or truck agitators used for transporting plant-mixed concrete shall conform to the requirements of ASTM C 94. Nonagitating equipment shall be used only for transporting plant-mixed concrete over a smooth road and when the hauling time is less than 15 minutes. Bodies of nonagitating equipment shall be smooth, watertight, metal containers specifically designed to transport concrete, shaped with rounded corners to minimize segregation, and equipped with gates that will permit positive control of the discharge of the concrete.

3.4.4 Chutes

When concrete can be placed directly from a truck mixer, agitator, or nonagitating equipment, the chutes normally attached to this equipment by the manufacturer may be used. A discharge deflector shall be used when required by the Contracting Officer. Separate chutes and other similar equipment will not be permitted for conveying concrete.

3.4.5 Belt Conveyors

Belt conveyors shall be designed and operated to assure a uniform flow of concrete from mixer to final place of deposit without segregation of ingredients or loss of mortar and shall be provided with positive means, such as discharge baffle or hopper , for preventing segregation of the concrete at the transfer points and the point of placing. Belt conveyors shall be constructed such that the idler spacing shall not exceed 36 inches. The belt speed shall be a minimum of 300 feet per minute and a maximum of 750 feet per minute. If concrete is to be placed through installed horizontal or sloping reinforcing bars, the conveyor shall discharge concrete into a pipe or elephant truck that is long enough to extend through the reinforcing bars.

3.4.6 Concrete Pumps

Concrete may be conveyed by positive displacement pump when approved. The

pumping equipment shall be piston or squeeze pressure type; pneumatic placing equipment shall not be used. The pipeline shall be rigid steel pipe or heavy-duty flexible hose. The inside diameter of the pipe shall be at least 3 times the nominal maximum-size coarse aggregate in the concrete mixture to be pumped but not less than 4 inches. Aluminum pipe shall not be used.

3.5 PLACING CONCRETE

Mixed concrete shall be discharged within 1-1/2 hours or before the mixer drum has revolved 300 revolutions, whichever comes first after the introduction of the mixing water to the cement and aggregates. When the concrete temperature exceeds 85 degrees F, the time shall be reduced to 45 minutes. Concrete shall be placed within 15 minutes after it has been discharged from the transporting unit. Concrete shall be handled from mixer or transporting unit to forms in a continuous manner until the approved unit of operation is completed. Adequate scaffolding, ramps and walkways shall be provided so that personnel and equipment are not supported by in-place reinforcement. Placing will not be permitted when the sun, heat, wind, or limitations of facilities furnished by the Contractor prevent proper consolidation, finishing and curing. Sufficient placing capacity shall be provided so that concrete can be kept free of cold joints.

3.5.1 Depositing Concrete

Concrete shall be deposited as close as possible to its final position in the forms, and there shall be no vertical drop greater than 5 feet except where suitable equipment is provided to prevent segregation and where specifically authorized. Depositing of the concrete shall be so regulated that it will be effectively consolidated in horizontal layers not more than 12 inches thick, except that all slabs shall be placed in a single layer. Concrete to receive other construction shall be screeded to the proper level. Concrete shall be deposited continuously in one layer or in layers so that fresh concrete is deposited on in-place concrete that is still plastic. Fresh concrete shall not be deposited on concrete that has hardened sufficiently to cause formation of seams or planes of weakness within the section. Concrete that has surface dried, partially hardened, or contains foreign material shall not be used. When temporary spreaders are used in the forms, the spreaders shall be removed as their service becomes unnecessary. Concrete shall not be placed in slabs over columns and walls until concrete in columns and walls has been in-place at least two hours or until the concrete begins to lose its plasticity. Concrete for beams, girders, brackets, column capitals, haunches, and drop panels shall be placed at the same time as concrete for adjoining slabs.

3.5.2 Consolidation

Immediately after placing, each layer of concrete shall be consolidated by internal vibrators, except for slabs 4 inches thick or less. The vibrators shall at all times be adequate in effectiveness and number to properly consolidate the concrete; a spare vibrator shall be kept at the jobsite during all concrete placing operations. The vibrators shall have a frequency of not less than 10,000 vibrations per minute, an amplitude of at least 0.025 inch, and the head diameter shall be appropriate for the structural member and the concrete mixture being placed. Vibrators shall be inserted vertically at uniform spacing over the area of placement. The distance between insertions shall be approximately 1-1/2 times the radius of action of the vibrator so that the area being vibrated will overlap the

adjacent just-vibrated area by a reasonable amount. The vibrator shall penetrate rapidly to the bottom of the layer and at least 6 inches into the preceding layer if there is such. Vibrator shall be held stationary until the concrete is consolidated and then vertically withdrawn slowly while operating. Form vibrators shall not be used unless specifically approved and unless forms are constructed to withstand their use. Vibrators shall not be used to move concrete within the forms. Excessive vibration of lightweight concrete resulting in segration or flotation of coarse aggregate shall be prevented. Frequency and amplitude of vibrators shall be determined in accordance with COE CRD-C 521. Grate tampers ("jitterbugs") shall not be used.

3.5.3 Cold Weather Requirements

Special protection measures, approved by the Contracting Officer, shall be used if freezing temperatures are anticipated before the expiration of the specified curing period. The ambient temperature of the air where concrete is to be placed and the temperature of surfaces to receive concrete shall be not less than 40 degrees F. The temperature of the concrete when placed shall meet the requirements of paragraph Concrete Temperature in PART 1. Heating of the mixing water or aggregates will be required to regulate the concrete placing temperature. Materials entering the mixer shall be free from ice, snow, or frozen lumps. Salt, chemicals or other materials shall not be incorporated in the concrete to prevent freezing. Upon written approval, an accelerating admixture conforming to ASTM C 494, Type C or E may be used, provided it contains no calcium chloride. Calcium chloride shall not be used.

3.5.4 Hot Weather Requirements

When the ambient temperature during concrete placing is expected to exceed 85 degrees F, the concrete shall be placed and finished with procedures previously submitted and as specified herein. The concrete temperature at time of delivery to the forms shall not exceed the temperature shown in the table below when measured in accordance with ASTM C 1064/C 1064M. Cooling of the mixing water or aggregates or placing concrete in the cooler part of the day may be required to obtain an adequate placing temperature. A retarder may be used, as approved, to facilitate placing and finishing. Steel forms and reinforcements shall be cooled as approved prior to concrete placement when steel temperatures are greater than 120 degrees F. Conveying and placing equipment shall be cooled if necessary to maintain proper concrete-placing temperature.

Maximum Allowable Concrete Placing Temperature

Relative Humidity, Percent, During Time of Concrete Placement	Maximum Allowable Concrete Temperature Degrees
Greater than 60	90 F
40-60	85 F
Less than 40	80 F

3.5.5 Prevention of Plastic Shrinkage Cracking

During hot weather with low humidity, and particularly with appreciable wind, as well as interior placements when space heaters produce low humidity, the Contractor shall be alert to the tendency for plastic shrinkage cracks to develop and shall institute measures to prevent this. Particular care shall be taken if plastic shrinkage cracking is potentially imminent and especially if it has developed during a previous placement. Periods of high potential for plastic shrinkage cracking can be anticipated by use of Fig. 2.1.5 of ACI 305R. In addition the concrete placement shall be further protected by erecting shades and windbreaks and by applying fog sprays of water, sprinkling, ponding or wet covering. Plastic shrinkage cracks shall never be troweled over or filled with slurry.

3.5.6 Concrete Placed Underwater

Structural concrete deposited underwater, excluding seals, shall be designated as a separate lot, and shall meet the strength requirements for 3,500 psi concrete.

Concrete masonry seals shall be in accordance with MNDOT 2401, and shall be exempt from strength requirements.

3.5.7 Special Requirements for Placing Bridge Superstructure Concrete

In addition to the above, the following special requirements shall apply to the bridge superstructure. In order to reduce deck cracking, place concrete decks only when the ambient air temperature is between 45 deg F and 85 deg F. Avoid pouring concrete on days when the daily temperature range is greater than 50 deg F. Studies show best results were seen when the ambient air temperature ranged between highs of 65-70 deg F and lows of 45-50 deg F. Placement of deck concrete in the evening (during warmer months) to reduce peak hydration temperatures is permitted.

3.6 JOINTS

Joints shall be located and constructed as indicated or approved. Joints not indicated on the drawings shall be located and constructed to minimize the impact on the strength of the structure. Joints shall be perpendicular to the main reinforcement. Except where otherwise indicated, construction joints between vertical surfaces shall consist of 30 pound asphalt-saturated felt, extending for the full depth of the slab. The perimeters of the slabs shall be free of fins, rough edges, spalling, or other unsightly appearance.

3.6.1 Construction Joints

Construction joints shall be located as indicated or approved. Concrete shall be placed continuously so that each unit is monolithic in construction. Fresh concrete shall not be placed against adjacent hardened concrete until it is at least 24 hours old. Where concrete work is interrupted by weather, end of work shift or other similar type of delay, location and type of construction joint shall be subject to approval of the Contracting Officer. Unless otherwise indicated, reinforcing steel shall extend through construction joints. Lifts shall terminate at such levels as to conform to structural requirements or architectural details. Where horizontal construction joints in columns are required, a strip of 1 inch square-edge lumber, beveled and oiled to facilitate removal, shall be tacked to the inside of the forms at the construction joint. Concrete shall be placed to a point 1 inch above the underside of the strip. The strip shall be removed 1 hour after the concrete has been placed, and any irregularities in the joint line shall be leveled off with a wood float, and all laitance shall be removed. Prior to placing additional concrete, horizontal construction joints shall be prepared as specified in paragraph Previously Placed Concrete.

3.6.2 Expansion Joints

Expansion joints and expansion joint filler shall be installed as shown on the Drawings. Sealing of joints shall be in accordance with Section 07900 JOINT SEALING.

3.6.3 Tie Bars

Tie bars shall be installed at the locations shown on the drawings and to the details shown, using materials and procedures specified in Section 03200 CONCRETE REINFORCEMENT and herein. "Structural" type deformed bar dowels, or tie bars, shall be installed to meet the specified tolerances. Care shall be taken during placing adjacent to and around tie bars to ensure there is no displacement of the tie bar and that the concrete completely embeds the tie bar and is thoroughly consolidated.

3.6.4 Special Requirements for Bridge Superstructure Joints

The Contractor has the option to reduce longitudinal stress in the superstructure by dividing the deck into three pours. Recommended concrete curing time to allow for shrinkage between adjoining pours is 72 hours. Keyed construction joints are optional as shown in the Drawings.

3.7 FINISHING FORMED SURFACES

Forms, form materials, and form construction are specified in Section 03100 STRUCTURAL CONCRETE FORMWORK. Finishing of formed surfaces shall be as specified herein. Unless another type of architectural or special finish is specified, surfaces shall be left with the texture imparted by the forms except that defective surfaces shall be repaired. Unless painting of surfaces is required, uniform color of the concrete shall be maintained by use of only one mixture without changes in materials or proportions for any structure or portion of structure that requires a Class A or B finish. Except for major defects, as defined hereinafter, surface defects shall be repaired as specified herein within 24 hours after forms are removed. Repairs of the so-called "plaster-type" will not be permitted in any location. Tolerances of formed surfaces shall conform to the requirements of ACI 117/117R. These tolerances apply to the finished concrete surface,

not to the forms themselves; forms shall be set true to line and grade. Form tie holes requiring repair and other defects whose depth is at least as great as their surface diameter shall be repaired as specified in paragraph Damp-Pack Mortar Repair. Defects whose surface diameter is greater than their depth shall be repaired as specified in paragraph Repair of Major Defects. Repairs shall be finished flush with adjacent surfaces and with the same surface texture. The cement used for all repairs shall be a blend of job cement with white cement proportioned so that the final color after curing and aging will be the same as the adjacent concrete. Concrete with excessive honeycomb, or other defects which affect the strength of the member, will be rejected. Repairs shall be demonstrated to be acceptable and free from cracks or loose or drummy areas at the completion of the contract and, for Class A and B Finishes, shall be inconspicuous. Repairs not meeting these requirements will be rejected and shall be replaced.

3.7.1 Class A Finish and Class B Finish

Class A finish is not required anywhere. Class B finish is required on the edge of bridge superstructure slabs and exterior of concrete parapets. Fins, ravelings, and loose material shall be removed, all surface defects over 1/2 inch in diameter or more than 1/2 inch deep, shall be repaired and, except as otherwise indicated or as specified in Section 03100 STRUCTURAL CONCRETE FORMWORK, holes left by removal of form ties shall be reamed and filled. Defects more than 1/2 inch in diameter shall be cut back to sound concrete, but in all cases at least 1 inch deep. The Contractor shall prepare a sample panel for approval before commencing repair, showing that the surface texture and color match will be attained. Metal tools shall not be used to finish repairs in Class A surfaces.

3.7.2 Class C and Class D Finish

Class C finish is required for the pier columns and abutment surfaces not receiving simulated stone masonry. Class D finish is required for pier footings. Fins, ravelings, and loose material shall be removed, and, except as otherwise indicated or as specified in Section 03100 STRUCTURAL CONCRETE FORMWORK, holes left by removal of form ties shall be reamed and filled. Honeycomb and other defects more than 1/2 inch deep or more than 2 inches in diameter shall be repaired. Defects more than 2 inches in diameter shall be cut back to sound concrete, but in all cases at least 1 inch deep.

3.7.3 Sack Rubbed Surface Finish

Provide a sack rubbed finish on all concrete surfaces above finished ground line except for the underside of the concrete deck and any surface with simulated stone masonry. The filling of form tie holes and other large cavities shall be done as specified under ordinary surface finish. As a preparatory operation, the entire surface shall be ground with a high speed electric disk-type grinder or sandblasted until blemishes, discolorations, and thin mortar films covering surface voids have been removed. When the structure has been completed to the extent that further blemishes and discolorations on the surface will not result from any remaining construction, the final operations shall be performed as follows:

a. The surface shall be thoroughly saturated with water and, while the surface is still moist, a mortar mixture (consisting of 1 part white cement, 1 part standard Portland cement and 2 parts mortar sand, with sufficient water added to produce a moderately

thick paste) shall be applied to the wetted area with a rubber float, starting at the top. All voids shall be completely filled during this operation. If any portion of the surface shows evidence of becoming dry before the mortar is applied, it shall be rewetted.

b. After the mortar has set sufficiently to be retained within the voids and before it has become completely dry, the entire surface that has been floated with mortar shall be rubbed with a small burlap sack filled with a dry mix (sand and cement only) of the mortar described above. All mortar in excess of that required to fill the voids shall be removed during the dry mortar sack rubbing operations. In lieu of the dry mix filled burlap sack, any equally effective means of removing the excess mortar will be approved.

c. The completed surface shall be free of blemishes, discolorations, surface voids, and conspicuous form marks. The surface shall be uniform in texture and appearance except for the difference in texture between filled voids and the remainder of the surface. Surfaces that do not meet these requirements shall be corrected to the satisfaction of the Contracting Officer.

3.7.4 Architectural and Special Finishes

Architectural concrete finish shall be in accordance with Section 03360 SIMULATED STONE MASONRY.

3.8 REPAIRS

3.8.1 Damp-Pack Mortar Repair

Form tie holes requiring repair and other defects whose depth is at least as great as their surface diameter but not over 4 inches shall be repaired by the damp-pack mortar method. Form tie holes shall be reamed and other similar defects shall be cut out to sound concrete. The void shall then be thoroughly cleaned, thoroughly wetted, brush-coated with a thin coat of neat cement grout and filled with mortar. Mortar shall be a stiff mix of 1 part portland cement to 2 parts fine aggregate passing the No. 16 mesh sieve, and minimum amount of water. Only sufficient water shall be used to produce a mortar which, when used, will stick together on being molded into a ball by a slight pressure of the hands and will not exude water but will leave the hands damp. Mortar shall be mixed and allowed to stand for 30 to 45 minutes before use with premixing performed immediately prior to use. Mortar shall be thoroughly tamped in place in thin layers using a hammer and hardwood block. Holes passing entirely through walls shall be completely filled from the inside face by forcing mortar through to the outside face. All holes shall be packed full. Damp-pack repairs shall be moist cured for at least 48 hours.

3.8.2 Repair of Major Defects

Major defects will be considered to be those more than 1/2 inch deep or, for Class A and B finishes, more than 1/2 inch in diameter and, for Class C and D finishes, more than 2 inches in diameter. Also included are any defects of any kind whose depth is over 4 inches or whose surface diameter is greater than their depth. Major defects shall be repaired as specified below.

3.8.2.1 Surface Application of Mortar Repair

Defective concrete shall be removed, and removal shall extend into completely sound concrete. Approved equipment and procedures which will not cause cracking or incarcerating of the sound concrete shall be used. If reinforcement is encountered, concrete shall be removed so as to expose the reinforcement for at least 2 inches on all sides. All such defective areas greater than 12 square inches shall be outlined by saw cuts at least 1 inch deep. Defective areas less than 12 square inches shall be outlined by a 1 inch deep cut with a core drill in lieu of sawing. All saw cuts shall be straight lines in a rectangular pattern in line with the formwork panels. After concrete removal, the surface shall be thoroughly cleaned by high pressure washing to remove all loose material. Surfaces shall be kept continually saturated for the first 12 of the 24 hours immediately before placing mortar and shall be damp but not wet at the time of commencing mortar placement. The Contractor, at his option, may use either hand-placed mortar or mortar placed with a mortar gun. If hand-placed mortar is used, the edges of the cut shall be perpendicular to the surface of the concrete. The prepared area shall be brush-coated with a thin coat of neat cement grout. The repair shall then be made using a stiff mortar, preshrunk by allowing the mixed mortar to stand for 30 to 45 minutes and then remixed, thoroughly tamped into place in thin layers. If hand-placed mortar is used, the Contractor shall test each repair area for drumminess by firm tapping with a hammer and shall inspect for cracks, both in the presence of the Contracting Officer's representative, immediately before completion of the contract, and shall replace any showing drumminess or cracking. If mortar placed with a mortar gun is used, the gun shall be a small compressed air-operated gun to which the mortar is slowly hand fed and which applies the mortar to the surface as a high-pressure stream, as approved. Repairs made using shotcrete equipment will not be accepted. The mortar used shall be the same mortar as specified for damp-pack mortar repair. If gun-placed mortar is used, the edges of the cut shall be beveled toward the center at a slope of 1:1. All surface applied mortar repairs shall be continuously moist cured for at least 7 days. Moist curing shall consist of several layers of saturated burlap applied to the surface immediately after placement is complete and covered with polyethylene sheeting, all held closely in place by a sheet of plywood or similar material rigidly braced against it. Burlap shall be kept continually wet.

3.8.2.2 Repair of Deep and Large Defects

Deep and large defects will be those that are more than 6 inches deep and also have an average diameter at the surface more than 18 inches or that are otherwise so identified by the Project Office. Such defects shall be repaired as specified herein or directed, except that defects which affect the strength of the structure shall not be repaired and that portion of the structure shall be completely removed and replaced. Deep and large defects shall be repaired by procedures approved in advance including forming and placing special concrete using applied pressure during hardening. Preparation of the repair area shall be as specified for surface application of mortar. In addition, the top edge (surface) of the repair area shall be sloped at approximately 20 degrees from the horizontal, upward toward the side from which concrete will be placed. The special concrete shall be a concrete mixture with low water content and low slump, and shall be allowed to age 30 to 60 minutes before use. Concrete containing a specified expanding admixture may be used in lieu of the above mixture; the paste portion of such concrete mixture shall be designed to have an expansion between 2.0 and 4.0 percent when tested in accordance

with ASTM C 940. A full width "chimney" shall be provided at the top of the form on the placing side to ensure filling to the top of the opening. A pressure cap shall be used on the concrete in the chimney with simultaneous tightening and revibrating the form during hardening to ensure a tight fit for the repair. The form shall be removed after 24 hours and immediately the chimney shall be carefully chipped away to avoid breaking concrete out of the repair; the surface of the repair concrete shall be dressed as required.

3.9 FINISHING UNFORMED SURFACES

The finish of all unformed surfaces shall meet the requirements of paragraph Tolerances in PART 1, when tested as specified herein.

3.9.1 General

The ambient temperature of spaces adjacent to unformed surfaces being finished and of the base on which concrete will be placed shall be not less than 50 degrees F. In hot weather all requirements of paragraphs Hot Weather Requirements and Prevention of Plastic Shrinkage Cracking shall be met. Unformed surfaces that are not to be covered by additional concrete or backfill shall have a float finish, with additional finishing as specified below, and shall be true to the elevation shown on the drawings. Surfaces to receive additional concrete or backfill shall be brought to the elevation shown on the drawings, properly consolidated, and left true and regular. Unless otherwise shown on the drawings, exterior surfaces shall be sloped for drainage, as directed. Where drains are provided, interior floors shall be evenly sloped to the drains. Joints shall be carefully made with a jointing or edging tool. The finished surfaces shall be protected from stains or abrasions. Grate tampers or "jitterbugs" shall not be used for any surfaces. The dusting of surfaces with dry cement or other materials or the addition of any water during finishing shall not be permitted. If bleedwater is present prior to finishing, the excess water shall be carefully dragged off or removed by absorption with porous materials such as burlap. During finishing operations, extreme care shall be taken to prevent over finishing or working water into the surface; this can cause "crazing" (surface shrinkage cracks which appear after hardening) of the surface. Any slabs with surfaces which exhibit significant crazing shall be removed and replaced. During finishing operations, surfaces shall be checked with a 10 foot straightedge, applied in both directions at regular intervals while the concrete is still plastic, to detect high or low areas.

3.9.2 Rough Slab Finish

As a first finishing operation for unformed surfaces, the surface shall receive a rough slab finish prepared as follows. Unless specified otherwise, unformed surfaces shall receive only a rough slab finish. The concrete shall be uniformly placed across the slab area, consolidated as previously specified, and then screeded with straightedge strikeoffs immediately after consolidation to bring the surface to the required finish level with no coarse aggregate visible. Side forms and screed rails shall be provided, rigidly supported, and set to exact line and grade. Allowable tolerances for finished surfaces apply only to the hardened concrete, not to forms or screed rails. Forms and screed rails shall be set true to line and grade. "Wet screeds" shall not be used.

3.9.3 Troweled Finish

The top of the semi-expansion abutments and expansion piers shall be given a trowel finish. After floating is complete and after the surface moisture has disappeared, unformed surfaces shall be steel-troweled to a smooth, even, dense finish, free from blemishes including trowel marks. Additional trowelings shall be performed, until the surface has been troweled 2 times, with waiting period between each. Care shall be taken to prevent blistering and if such occurs, troweling shall immediately be stopped and operations and surfaces corrected. A final hard steel troweling shall be done by hand, with the trowel tipped, and using hard pressure, when the surface is at a point that the trowel will produce a ringing sound. The finished surface shall be thoroughly consolidated and shall be essentially free of trowel marks and be uniform in texture and appearance. The concrete mixture used for troweled finished areas shall be adjusted, if necessary, in order to provide sufficient fines (cementitious material and fine sand) to finish properly.

3.9.4 Broomed Finish

Traffic areas of the superstructure slab, overlook areas, and bridge approach panels shall be given a broomed finish. After floating, the surface shall be carefully scored by pulling a coarse fiber push-type broom across the surface. Brooming shall be transverse to traffic or at right angles to the slope of the slab. After the end of the curing period, the surface shall be vigorously broomed with a coarse fiber broom to remove all loose or semi-detached particles.

3.10 CURING AND PROTECTION

3.10.1 General

Concrete shall be cured by an approved method for the period of time given below:

All substructure units and parapets	7 days
Superstructure only	14 days

Immediately after placement, concrete shall be protected from premature drying, extremes in temperatures, rapid temperature change, mechanical injury and damage from rain and flowing water for the duration of the curing period. Air and forms in contact with concrete shall be maintained at a temperature above 50 degrees F for the first 3 days and at a temperature above 32 degrees F for the remainder of the specified curing period. Exhaust fumes from combustion heating units shall be vented to the outside of the enclosure, and heaters and ducts shall be placed and directed so as not to cause areas of overheating and drying of concrete surfaces or to create fire hazards. Materials and equipment needed for adequate curing and protection shall be available and at the site prior to placing concrete. No fire or excessive heat, including welding, shall be permitted near or in direct contact with the concrete at any time. Moist curing shall be provided for all areas. Except for plastic coated burlap, impervious sheeting alone shall not be used for curing.

3.10.1.1 Substructures

All concrete footings not backfilled upon removal of forms and the exposed surfaces of backfilled footings shall be cured as provided above or by submersion when permitted by the Contracting Officer. Where it is

necessary to remove wetted burlap to permit setting of forms, the exposed concrete surface shall be kept thoroughly damp.

3.10.1.2 Decks

The concrete masonry in decks and sidewalks shall be cured by the following method. The curing of the horizontal concrete surfaces by fogging shall begin within 15 minutes following finishing and tining. The fog or fine water spray shall be applied in such a manner that water marks or washing of mortar from the surface of the concrete will not result. The concrete surface shall be kept continuously wetted by fogging until application of burlap strips to the finished concrete. The burlap shall be wetted immediately after placement. During the first day until the soaker hose system can be placed, the Contractor shall keep the burlap continuously wet. Through the remainder of the first seven days the burlap shall be kept continuously wet with soaker hoses hooked up to a continuous water source. The Contractor shall inspect the burlap on a daily basis to ensure that the entire surface is moist. The soaker hose system shall be altered as needed to ensure the surface is completely moist. The use of impervious sheet blankets shall not be permitted. The moist curing shall be continued a minimum of seven days.

3.10.1.3 Parapets

Concrete masonry in the inside faces of railings and parapets shall be cured by covering with wetted burlap immediately after the forms are removed and the required surface finish is applied and keeping such covering thoroughly wet for a period of at least four days; or by covering for a like period with thoroughly wetted polyethylene-coated burlap. Coverings shall be satisfactorily secured along all edges to prevent loss of moisture.

Concrete masonry in the outside faces of railings, parapets, exterior girders and similar parts of the structure shall be cured by applying impervious coating curing material immediately after the forms are removed and the required surface finish is applied; or by covering with wetted burlap immediately after the forms are removed and the required surface finish is applied and keeping such covering throughly wet for a period of at least four days; or by covering for a like period with thoroughly wetted polyethylene-coated burlap. Coverings shall be satisfactorily secured along all edges to prevent loss of moisture.

3.10.2 Moist Curing

Concrete to be moist-cured shall be maintained continuously wet for the entire curing period, commencing immediately after finishing. If there is evidence that the concrete surface is being eroded by the curing water, the Contracting Officer will immediately suspend the spraying or fogging. The Contractor shall remedy the conditions causing erosion or may switch to another curing method where continuous wet cure is not required. If water or curing materials used stain or discolor concrete surfaces which are to be permanently exposed, the concrete surfaces shall be cleaned as approved. When wooden forms are left in place during curing, they shall be kept wet at all times. If steel forms are used in hot weather, nonsupport vertical forms shall be broken loose from the concrete soon after the concrete hardens and curing water continually applied in this void. If the forms are removed before the end of the curing period, curing shall be carried out as on unformed surfaces, using suitable materials. Surfaces shall be cured by ponding, by continuous sprinkling, by continuously saturated

burlap or cotton mats, or by continuously saturated plastic coated burlap. Burlap and mats shall be clean and free from any contamination and shall be completely saturated before being placed on the concrete. Two layers of burlap shall be used at all times. The Contractor shall have an approved work system to ensure that moist curing is continuous 24 hours per day.

3.10.3 Impervious Sheeting

All horizontal concrete surfaces may be cured using impervious sheets. However, except for plastic coated burlap, impervious sheeting alone shall not be used for curing. Impervious-sheet curing shall only be used on horizontal or nearly horizontal surfaces. Surfaces shall be thoroughly wetted and be completely covered with the sheeting. Sheeting shall be at least 18 inches wider than the concrete surface to be covered. Covering shall be laid with light-colored side up. Covering shall be lapped not less than 12 inches and securely weighted down or shall be lapped not less than 4 inches and taped to form a continuous cover with completely closed joints. The sheet shall be weighted to prevent displacement so that it remains in contact with the concrete during the specified length of curing. Coverings shall be folded down over exposed edges of slabs and secured by approved means. Sheets shall be immediately repaired or replaced if tears or holes appear during the curing period. The Contractor shall maintain the sheeting material in place until the concrete meets the opening criteria specified in paragraph OPENING TO SERVICE. Where temporary removal is required to remove forms or perform other necessary work, the Contractor shall re-cover all exposed concrete as quickly as practical, or as the Contracting Officer directs. If approved by the Contracting Officer, the Contractor may reuse sheeting materials that are in serviceable condition.

3.10.4 Alternate Curing Method

If requested by the Contractor, the Contracting Officer may approve the use of alternate materials or curing methods. If requested by the Contracting Officer, the Contractor shall supply technical specifications, test results, or performance records to support their proposed alternative method.

3.10.5 Cold Weather Curing and Protection

When the daily ambient low temperature is less than 32 degrees F the surface temperature of the concrete shall be maintained above 40 degrees F for the first seven days after placing, or the duration of the curing period, which is longer. The Contractor shall provide protection necessary to prevent freezing of the concrete until it has developed sufficient strength to meet the opening criteria specified in paragraph OPENING TO SERVICE. The Contractor shall remove and replace frozen or frost damaged concrete at no expense to the Government.

3.10.5.1 Measuring Devices

Suitable temperature measuring devices shall be furnished by the Contractor, as required, and installed adjacent to the concrete surface and 2 inches inside the surface of the concrete. The installation of the thermometers and thermocouples shall be made by the Contractor as directed.

3.10.5.2 Cessation of Cold Weather Protection

At the close of the cold weather protection period, the temperature within

the enclosure shall be gradually reduced in a manner to avoid a sudden temperature change of the new concrete. Such decrease shall be made by loosening the forms and other insulating layers in a manner to permit the whole mass of concrete to gradually approach the temperature to which it will be subjected at the end of the curing period. The average rate of decrease shall not exceed 5 F in any hour nor 30 F in any 24-hour period until the outside air temperature is reached. The surface of the concrete shall be permitted to dry while temperatures are being equalized.

3.10.5.3 Bridge Decks

The Contractor shall not place concrete for bridge decks or other superstructure elements at any time when the official Weather Bureau forecast for the construction area predicts temperature to fall below 32 F within 24 hours, unless specifically permitted or required by the Contracting Officer in writing. When the official Weather Bureau forecast for the construction area predicts temperature to fall below 20 F during the cold weather protection period, the underside of the deck shall be protected by housing and heating.

3.10.5.4 Continuous Wet Cure Method

When ambient temperatures are predicted to fall below 32 F within the next 24 hours, the Contractor shall suspend continuous wet curing and switch to another curing method.

3.10.6 Special Requirements for Bridge Superstructure Curing

Due to the superstructure concrete mixture's anticipated slower rate of strength gain, the moist curing period shall be extended to 14 days minimum, and shall continue until the internal concrete temperature as measured by thermocouples is within 30 deg F of the ambient temperature. The forms and falsework shall not be removed during the curing period. At all times, the contractor shall have enough concrete curing blankets on-site to cover the entire bridge deck in the event of rapidly changing weather. Maximum concrete surface temperature during curing shall be 150 deg F.

3.11 PROTECTIVE SURFACE TREATMENT

After a 28 day minimum curing period, the concrete deck shall be cleaned of all dirt and debris, and sprayed with protective surface treatment.

3.12 NONSHRINK GROUT

Nonshrink grout shall be a ready-mixed material requiring only the addition of water. Water content shall be the minimum that will provide a flowable mixture and completely fill the space to be grouted without segregation, bleeding, or reduction of strength.

3.12.1 Mixing and Placing of Nonshrink Grout

Mixing and placing shall be in conformance with the material manufacturer's instructions and as specified therein. Ingredients shall be thoroughly dry-mixed before adding water. After adding water, the batch shall be mixed for 3 minutes. Batches shall be of size to allow continuous placement of freshly mixed grout. Grout not used within 30 minutes after mixing shall be discarded. The space between the top of the concrete or machinery-bearing surface and the plate shall be filled solid with the

grout. Forms shall be of wood or other equally suitable material for completely retaining the grout on all sides and on top and shall be removed after the grout has set. The placed grout shall be carefully worked by rodding or other means to eliminate voids; however, overworking and breakdown of the initial set shall be avoided. Grout shall not be retempered or subjected to vibration from any source. Where clearances are unusually small, placement shall be under pressure with a grout pump. Temperature of the grout, and of surfaces receiving the grout, shall be maintained at 65 to 85 degrees F until after setting.

3.12.2 Treatment of Exposed Surfaces

For metal-oxidizing nonshrink grout, exposed surfaces shall be cut back 1 inch and immediately covered with a parge coat of mortar consisting of 1 part portland cement and 2-1/2 parts fine aggregate by weight, with sufficient water to make a plastic mixture. The parge coat shall have a smooth finish. For other mortars or grouts, exposed surfaces shall have a smooth-dense finish and be left untreated. Curing shall comply with paragraph CURING AND PROTECTION.

3.13 OPENING TO SERVICE

3.13.1 General

The Contractor shall maintain moisture, temperature, and physical protection for concrete until it has developed 100 percent of its strength to open it to service. The concrete superstructure (except parapets) must meet the criteria in Section 03100 STRUCTURAL CONCRETE FORMWORK, paragraph REMOVAL OF FORMS, before the Contracting Officer will allow the Contractor to open the bridge superstructure to construction and public traffic.

In the absence of compressive strength information, the Contracting Officer may allow the Contractor to open the affected structural masonry units (except the bridge superstructure which is governed by Section 03100 STRUCTURAL CONCRETE FORMWORK, paragraph REMOVAL OF FORMS), upon the expiration of the following minimum time periods as adjusted for concrete surface temperature.

APPLICATION	EQUIVALENT CURING DAYS
General purpose concrete (w/o pozzolan)	5
General purpose concrete (w/pozzolan)	7

The equivalent curing day is based on a daily average concrete surface temperature of 60 F. The daily average concrete surface temperature is calculated as the average of the high and low temperatures at the least favorable location of the affected concrete masonry unit, as verified by the Contracting Officer for each day. When this daily average concrete surface temperature falls below 60 F, equivalent curing days are accumulated at a reduced rate. For a daily average concrete surface temperature of:

1. 60 F or more; accumulate 1 equivalent curing day per calendar day.

2. 40 to less than 60 F; accumulate 0.6 equivalent curing day per calendar day.

3. Less than 40 F; no curing credit is accumulated.

3.13.2 Exceptions

3.13.2.1 General

The Contractor may conduct construction operations on concrete not meeting these opening criteria in accordance with paragraph Substructures and paragraph Superstructures, below. The Contracting Officer may suspend or delay operations that injure the surface or otherwise damage the concrete. The Contractor shall clean the surface before traffic of any kind is permitted to use the structure.

3.13.2.2 Substructures

The setting of forms for footings placed on seals and the placing of concrete therein may take place immediately upon dewatering of the cofferdam and preparation of the surface of the seal. Unless otherwise directed by the Contracting Officer, the setting of forms for columns and walls may take place on the day following the placing of concrete in the footing, and the placing of the concrete in columns and walls may begin when the concrete footing for such column or wall has cured for at least 24 hours under favorable conditions.

No part of the load of the superstructure nor any other dead load, except as provided above, shall be applied to any concrete substructure unit until the concrete in such unit has cured for at least 48 hours under favorable conditions. Beams of open-type substructure units shall not be loaded until the end of the required period for support of such beams by falsework.

3.13.2.3 Superstructure

Loads incident to the storage of small articles, the operation of concrete buggies and other necessary light equipment may be applied on concrete decks, with the approval of the Contracting Officer, after the concrete deck has met the requirements of Section 03100 STRUCTURAL CONCRETE FORMWORK, paragraph REMOVAL OF FORMS, and only if the loads weigh less than the ultimate design loads as shown on the bridge plans.

The Contractor may operate hauling equipment, as necessary to perform subsequent pours, on the structure after parapets have been in place for 24 hours. For the first 24 hours the Contractor shall not operate any equipment on the structure. Only foot traffic will be permitted during first 24 hours.

3.13.3 Opening Strength

3.13.3.1 General

The Contractor shall determine opening strength and provide the Contracting Officer with the information required to verify that strength by one or a combination of the following methods:

1. Compressive strength testing of field-curved cylinders.

2. Maturity method.

The resulting opening strength, when verified by the Contracting Officer,

will apply to concrete on the same project meeting the following criteria:

1. Of the same mix design as the test location.

2. Cured under similar or more desirable conditions.

3. Placed on or before the test location.

When neither direct compressive strength test results nor maturity data are available, the Contracting Officer may estimate compressive strength based on test results of concrete of the same mix design placed contiguously under similar conditions on the same project. All superstructure concrete masonry (except parapets) must conform to Section 03100 STRUCTURAL CONCRETE FORMWORK, paragraph REMOVAL OF FORMS.

3.13.3.2 Compressive Strength Testing of Field-Cured Cylinders

The Contractor shall submit the compressive strength test results to the Contracting Officer for verification. The Contractor shall compute the opening strength as the average of compressive strength test results for 2 field-cured cylinders. When the strength of a cylinder is less than 90 percent of the required strength, the Contracting Officer will reject the resulting average. The Contractor shall field cure cylinders under conditions similar to those prevailing for the structural masonry unit they represent. The Contractor shall fabricate cylinders according to ASTM C 31/C 31M and test the cylinders according to ASTM C 39. The Government will consider costs associated with the fabrication and testing of concrete cylinders for the determination of opening strength as incidental to the related bid item.

3.13.3.3 Maturity Method

The Contractor shall submit the maturity test results to the Contracting Officer for verification. The Contractor shall determine the opening strength from the maturity of the in-place concrete, according to ASTM C 1074, using the temperature-time factor method with a 32 F datum temperature. The Contractor shall provide the Contracting Officer with a strength/maturity calibration curve based on either laboratory developed strength results or on strength results from structural masonry units incorporated in the project. The Contractor shall develop a new strength/maturity calibration curve whenever the mix design is changed. The Government will consider costs associated with maturity evaluation for the determination of opening strength as incidental to the related bid item.

3.14 TESTING AND INSPECTION FOR CONTRACTOR QUALITY CONTROL

The Contractor shall perform the inspection and tests described below and, based upon the results of these inspections and tests, shall take the action required and shall submit specified reports. When, in the opinion of the Contracting Officer, the concreting operation is out of control, concrete placement shall cease and the operation shall be corrected. The laboratory performing the tests shall be onsite and shall conform with ASTM C 1077. Materials may be subjected to check testing by the Government from samples obtained at the manufacturer, at transfer points, or at the project site. The Government will inspect the laboratory, equipment, and test procedures prior to start of concreting operations and as it deems necessary thereafter for conformance with ASTM C 1077.

3.14.1 Grading and Corrective Action

3.14.1.1 Fine Aggregate

At least once during each shift when the concrete plant is operating, there shall be one sieve analysis and fineness modulus determination in accordance with ASTM C 136 and COE CRD-C 104 for the fine aggregate or for each fine aggregate if it is batched in more than one size or classification. The location at which samples are taken may be selected by the Contractor as the most advantageous for control. However, the Contractor is responsible for delivering fine aggregate to the mixer within specification limits. When the amount passing on any sieve is outside the specification limits, the fine aggregate shall be immediately resampled and retested. If there is another failure on any sieve, the fact shall immediately reported to the Contracting Officer, concreting shall be stopped, and immediate steps taken to correct the grading.

3.14.1.2 Coarse Aggregate

At least once during each shift in which the concrete plant is operating, there shall be a sieve analysis in accordance with ASTM C 136 for each size of coarse aggregate. The location at which samples are taken may be selected by the Contractor as the most advantageous for production control. However, the Contractor shall be responsible for delivering the aggregate to the mixer within specification limits. A test record of samples of aggregate taken at the same locations shall show the results of the current test as well as the average results of the five most recent tests including the current test. The Contractor may adopt limits for control coarser than the specification limits for samples taken other than as delivered to the mixer to allow for degradation during handling. When the amount passing any sieve is outside the specification limits, the coarse aggregate shall be immediately resampled and retested. If the second sample fails on any sieve, that fact shall be reported to the Contracting Officer. Where two consecutive averages of 5 tests are outside specification limits, the operation shall be considered out of control and shall be reported to the Contracting Officer. Concreting shall be stopped and immediate steps shall be taken to correct the grading.

3.14.2 Quality of Aggregates

Thirty days prior to the start of concrete placement, the Contractor shall perform all tests for aggregate quality required by ASTM C 33. In addition, after the start of concrete placement, the Contractor shall perform tests for aggregate quality at least every three months, and when the source of aggregate or aggregate quality changes. Samples tested after the start of concrete placement shall be taken immediately prior to entering the concrete mixer.

3.14.3 Scales, Batching and Recording

The accuracy of the scales shall be checked by test weights prior to start of concrete operations and at least once every three months. Such tests shall also be made as directed whenever there are variations in properties of the fresh concrete that could result from batching errors. Once a week the accuracy of each batching and recording device shall be checked during a weighing operation by noting and recording the required weight, recorded weight, and the actual weight batched. At the same time, the Contractor shall test and ensure that the devices for dispensing admixtures are operating properly and accurately. When either the weighing accuracy or

batching accuracy does not comply with specification requirements, the plant shall not be operated until necessary adjustments or repairs have been made. Discrepancies in recording accuracies shall be corrected immediately.

3.14.4 Batch-Plant Control

The measurement of concrete materials including cementitious materials, each size of aggregate, water, and admixtures shall be continuously controlled. The aggregate weights and amount of added water shall be adjusted as necessary to compensate for free moisture in the aggregates. The amount of air-entraining agent shall be adjusted to control air content within specified limits. A report shall be prepared indicating type and source of cement used, type and source of pozzolan or slag used, amount and source of admixtures used, aggregate source, the required aggregate and water weights per cubic yard, amount of water as free moisture in each size of aggregate, and the batch aggregate and water weights per cubic yard for each class of concrete batched during each day's plant operation.

3.14.5 Concrete Mixture

a. Air Content Testing. Air content tests shall be made when test specimens are fabricated. In addition, at least two tests for air content shall be made on randomly selected batches of each separate concrete mixture produced during each 8-hour period of concrete production. Additional tests shall be made when excessive variation in workability is reported by the placing foreman or Government inspector. Tests shall be made in accordance with ASTM C 231 for normal weight concrete and ASTM C 173 for lightweight concrete. Test results shall be plotted on control charts which shall at all times be readily available to the Government and shall be submitted weekly. Copies of the current control charts shall be kept in the field by testing crews and results plotted as tests are made. When a single test result reaches either the upper or lower action limit, a second test shall immediately be made. The results of the two tests shall be averaged and this average used as the air content of the batch to plot on both the air content and the control chart for range, and for determining need for any remedial action. The result of each test, or average as noted in the previous sentence, shall be plotted on a separate control chart for each mixture on which an "average line" is set at the midpoint of the specified air content range from paragraph Air Entrainment. An upper warning limit and a lower warning limit line shall be set 1.0 percentage point above and below the average line, respectively. An upper action limit and a lower action limit line shall be set 1.5 percentage points above and below the average line, respectively. The range between each two consecutive tests shall be plotted on a secondary control chart for range where an upper warning limit is set at 2.0 percentage points and an upper action limit is set at 3.0 percentage points. Samples for air content may be taken at the mixer, however, the Contractor is responsible for delivering the concrete to the placement site at the stipulated air content. If the Contractor's materials or transportation methods cause air content loss between the mixer and the placement, correlation samples shall be taken at the placement site as required by the Contracting Officer, and the air content at the mixer controlled as directed.

b. Air Content Corrective Action. Whenever points on the control chart for percent air reach either warning limit, an adjustment shall immediately be made in the amount of air-entraining admixture batched. As soon as practical after each adjustment, another test shall be made to verify the result of the adjustment. Whenever a point on the secondary control chart for range reaches the warning limit, the admixture dispenser shall be recalibrated to ensure that it is operating accurately and with good reproducibility. Whenever a point on either control chart reaches an action limit line, the air content shall be considered out of control and the concreting operation shall immediately be halted until the air content is under control. Additional air content tests shall be made when concreting is restarted.

c. Slump Testing. In addition to slump tests which shall be made when test specimens are fabricated, at least four slump tests shall be made on randomly selected batches in accordance with ASTM C 143 for each separate concrete mixture produced during each 8-hour or less period of concrete production each day. Also, additional tests shall be made when excessive variation in workability is reported by the placing foreman or Government inspector. Test results shall be plotted on control charts which shall at all times be readily available to the Government and shall be submitted weekly. Copies of the current control charts shall be kept in the field by testing crews and results plotted as tests are made. When a single slump test reaches or goes beyond either the upper or lower action limit, a second test shall immediately be made. The results of the two tests shall be averaged and this average used as the slump of the batch to plot on both the control charts for slump and the chart for range, and for determining need for any remedial action. Limits shall be set on separate control charts for slump for each type of mixture. The upper warning limit shall be set at 1/2 inch below the maximum allowable slump specified in paragraph Slump in PART 1 for each type of concrete and an upper action limit line and lower action limit line shall be set at the maximum and minimum allowable slumps, respectively, as specified in the same paragraph. The range between each consecutive slump test for each type of mixture shall be plotted on a single control chart for range on which an upper action limit is set at 2 inches. Samples for slump shall be taken at the mixer. However, the Contractor is responsible for delivering the concrete to the placement site at the stipulated slump. If the Contractor's materials or transportation methods cause slump loss between the mixer and the placement, correlation samples shall be taken at the placement site as required by the Contracting Officer, and the slump at the mixer controlled as directed.

d. Slump Corrective Action. Whenever points on the control charts for slump reach the upper warning limit, an adjustment shall immediately be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the total water content does not exceed that amount allowed by the maximum w/c ratio specified, based on aggregates which are in a saturated surface dry condition. When a single slump reaches the upper or lower action limit, no further concrete shall be delivered to the placing site until proper adjustments have been made. Immediately after each adjustment, another test shall be made to verify the correctness of the adjustment. Whenever two consecutive

individual slump tests, made during a period when there was no adjustment of batch weights, produce a point on the control chart for range at or above the upper action limit, the concreting operation shall immediately be halted, and the Contractor shall take appropriate steps to bring the slump under control. Additional slump tests shall be made as directed.

e. Temperature. The temperature of the concrete shall be measured when compressive strength specimens are fabricated. Measurement shall be in accordance with ASTM C 1064/C 1064M. The temperature shall be reported along with the compressive strength data.

f. Strength Specimens. At least one set of test specimens shall be made, for compressive strength, on each different concrete mixture placed during the day for each 100 cubic yards or portion thereof of that concrete mixture placed each day. Additional sets of test specimens shall be made, as directed by the Contracting Officer, when the mixture proportions are changed or when low strengths have been detected. A truly random (not haphazard) sampling plan shall be developed by the Contractor and approved by the Contracting Officer prior to the start of construction. The plan shall assure that sampling is done in a completely random and unbiased manner. A set of test specimens for concrete with a 28-day specified strength per paragraph Strength Requirements in PART 1 shall consist of four specimens, two to be tested at 7 days and two at 28 days. A set of test specimens for concrete with a 56-day strength per the same paragraph shall consist of six specimens, two tested at 7 days, two at 28 days, and two at 56 days. Test specimens shall be molded and cured in accordance with ASTM C 31/C 31M and tested in accordance with ASTM C 39 for test cylinders and ASTM C 78 for test beams. Results of all strength tests shall be reported immediately to the Contracting Officer. Quality control charts shall be kept for individual strength "tests", ("test" as defined in paragraph Strength Requirements in PART 1) moving average of last 3 "tests" for strength, and moving average for range for the last 3 "tests" for each mixture. The charts shall be similar to those found in ACI 214.3R.

3.14.6 Inspection Before Placing

Foundations, construction joints, forms, and embedded items shall be inspected by the Contractor in sufficient time prior to each concrete placement in order to certify to the Contracting Officer that they are ready to receive concrete. The results of each inspection shall be reported in writing.

3.14.7 Placing

The placing foreman shall supervise placing operations, shall determine that the correct quality of concrete or grout is placed in each location as specified and as directed by the Contracting Officer, and shall be responsible for measuring and recording concrete temperatures and ambient temperature hourly during placing operations, weather conditions, time of placement, volume placed, and method of placement. The placing foreman shall not permit batching and placing to begin until it has been verified that an adequate number of vibrators in working order and with competent operators are available. Placing shall not be continued if any pile of concrete is inadequately consolidated. If any batch of concrete fails to meet the temperature requirements, immediate steps shall be taken to

improve temperature controls.

3.14.8 Vibrators

The frequency and amplitude of each vibrator shall be determined in accordance with COE CRD-C 521 prior to initial use and at least once a month when concrete is being placed. Additional tests shall be made as directed when a vibrator does not appear to be adequately consolidating the concrete. The frequency shall be determined while the vibrator is operating in concrete with the tachometer being held against the upper end of the vibrator head while almost submerged and just before the vibrator is withdrawn from the concrete. The amplitude shall be determined with the head vibrating in air. Two measurements shall be taken, one near the tip and another near the upper end of the vibrator head, and these results averaged. The make, model, type, and size of the vibrator and frequency and amplitude results shall be reported in writing. Any vibrator not meeting the requirements of paragraph Consolidation, shall be immediately removed from service and repaired or replaced.

3.14.9 Curing Inspection

a. Moist Curing Inspections. At least once each shift, and not less than twice per day on both work and non-work days, an inspection shall be made of all areas subject to moist curing. The surface moisture condition shall be noted and recorded.

b. Moist Curing Corrective Action. When a daily inspection report lists an area of inadequate curing, immediate corrective action shall be taken, and the required curing period for those areas shall be extended by 1 day.

c. Sheet Curing Inspection. At least once each shift and once per day on non-work days, an inspection shall be made of all areas being cured using impervious sheets. The condition of the covering and the tightness of the laps and tapes shall be noted and recorded.

d. Sheet Curing Corrective Action. When a daily inspection report lists any tears, holes, or laps or joints that are not completely closed, the tears and holes shall promptly be repaired or the sheets replaced, the joints closed, and the required curing period for those areas shall be extended by 1 day.

3.14.10 Cold-Weather Protection

At least once each shift and once per day on non-work days, an inspection shall be made of all areas subject to cold-weather protection. Any deficiencies shall be noted, corrected, and reported.

3.14.11 Mixer Uniformity

a. Stationary Mixers. Prior to the start of concrete placing and once every 6 months when concrete is being placed, or once for every 75,000 cubic yards of concrete placed, whichever results in the shortest time interval, uniformity of concrete mixing shall be determined in accordance with ASTM C 94.

b. Truck Mixers. Prior to the start of concrete placing and at least once every 6 months when concrete is being placed, uniformity of

concrete mixing shall be determined in accordance with ASTM C 94. The truck mixers shall be selected randomly for testing. When satisfactory performance is found in one truck mixer, the performance of mixers of substantially the same design and condition of the blades may be regarded as satisfactory.

c. Mixer Uniformity Corrective Action. When a mixer fails to meet mixer uniformity requirements, either the mixing time shall be increased, batching sequence changed, batch size reduced, or adjustments shall be made to the mixer until compliance is achieved.

3.14.12 Temperature Records

As a minimum, the Contractor shall provide high/low thermometers (and/or thermocouples) that retain the minimum and maximum temperature readings for each measurement period. The Contractor shall provide facilities suitable to the Contracting Officer to verify the temperature inside and outside the insulation and within the mass of concrete at various locations in the unit. Temperature recordings shall be made at not over 24-hour intervals. Outside air temperature recordings shall be made at the time of making the recordings within the enclosure. A copy of the temperature record shall be available to the Contracting Officer at the close of each day's work.

3.14.13 Reports

All results of tests or inspections conducted shall be reported informally as they are completed and in writing daily. A weekly report shall be prepared for the updating of control charts covering the entire period from the start of the construction season through the current week. During periods of cold-weather protection, reports of pertinent temperatures shall be made daily. These requirements do not relieve the Contractor of the obligation to report certain failures immediately as required in preceding paragraphs. Such reports of failures and the action taken shall be confirmed in writing in the routine reports. The Contracting Officer has the right to examine all contractor quality control records.

-- End of Section --

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SECTION 03360

SIMULATED STONE MASONRY

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 1308	(1987; R 1998) Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM D 3359	(1997) Measuring Adhesion by Tape Test
ASTM G 23	(1996) Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Simulated Stone Masonry; G, STR

Plan, elevation and details to show overall pattern, joint locations, form tie type and locations, and end, edge and other special conditions.

SD-04 Samples

Panel; G, COR

Within 30 days of receiving the general contract General Contractor is required to submit a 24 inch x 24 inch sample of each the simulated stone masonry finishes. Sample is to demonstrate the finish described in paragraph DESIGN REQUIREMENTS.

1.3 DESIGN REQUIREMENTS

Design and pattern of the concrete surface shall follow the manufacturer's standard drawing. If an actual stone surface or stone wall to be matched is available, the completed colored and formed concrete surface shall match

the natural material as closely as possible. Patterning of simulated stone masonry shall appear natural and non-repeating. Seam lines or match lines caused from two of more molds coming together will not be apparent when viewing final wall. Final coloration of cast stone concrete surface shall accurately simulate the appearance of real stone including the multiple colors, shades, flecking, and veining that is apparent in real stone. It shall also demonstrate the colors that may be apparent from aging, such as staining from oxidation, rusting and/or organic staining from soil and/or vegetation. Note that in paragraph SUBMITTAL and Part 3, EXECUTION, a sample and mockup are required. Upon approval by COR, mockup shall serve as quality standard for the project.

1.4 QUALITY ASSURANCE

Manufacturer of simulated stone masonry molds and custom coloring system shall have 5 years experience making stone masonry molds and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors.

Pre-installation meeting: Schedule conference with manufacturer representative to ensure understanding of simulated stone masonry molds use, color application, requirements for construction of mockup, and to coordinate the work.

1.5 PROJECT CONDITIONS

Environmental requirements: Apply color stain when ambient temperatures are between 50 and 100 degrees F. Consult manufacturer if conditions differ from this requirement.

1.6 SEQUENCING

Schedule color stain application with earthwork and backfilling of any wall areas making sure that all simulated stone texture is colored to the minimum distance below grade. Delay adjacent plantings until color application is completed. Coordinate work to permit coloring applications without interference from other trades.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Simulated Stone Masonry Molds

Reusable, made of high-strength urethane, easily attachable to forms. Molds shall not compress more than 1/4 inch when concrete is poured at rate of 10 vertical feet per hour. Molds shall be removable without causing deterioration of surface or underlying concrete.

a. Bridges and Overlook Form Liner: Custom Rock Form Liner #1114, Random Cut Stone (9" Coursing), as manufactured by Custom Rock International (CRI), Scott System, Inc. or approved equal.

2.1.2 Release Agent

Compatible with simulated stone masonry molds and with color stain system to be applied to surface. Consult manufacturer.

2.1.3 Form Ties

Form ties shall be made of either metal or fiberglass. Using metal ties which result in a portion of the tie permanently embedded in the concrete shall be designed to separate at least 1 inch back from finished surface, leaving only a neat hole that can be plugged with patching material. Contractor shall submit the type of form ties to the Engineer, project designer or Owner for approval prior to use in this work.

2.1.4 Mortar Joints

Joints shall be colored to simulate real mortar.

2.1.5 Color Stain

CRI pigmented stain is a special penetrating stain mix, as provided by manufacturer, and shall achieve color variations present in the natural stone being simulated for this project, as required by COR as referenced in paragraph DESIGN REQUIREMENTS. Stain shall create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, acid, alkali, fungi, sunlight or weathering. Stain mix shall be a water borne, low V.O.C. material, less than 289 grams/liter, and shall meet requirements for weathering resistance of 2000 hours accelerated exposure measured by weather-o-meter in accordance with ASTM G 23. Scrub test 1000 revolutions. Abrasive resistance (Tabor-CF-10) 500 cycles. Adhesion ASTM D 3359 1.00MM cross cuts on glass pass 3 or higher on a scale of 1 to 5. Supply information pertaining to chemical resistance ASTM D 1308 to 87.

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLERS

3.1.1 Formed Concrete Construction

Five years experience pouring vertically formed architectural concrete. Installer shall be trained in manufacturer's special techniques in order to achieve realistic surfaces.

3.1.2 Color Stain System Application

Manufacturer or manufacturer's authorized representative.

3.2 CONSTRUCTION

Mockup: Build on site sixty days before work starts, using same materials, methods and work force that will be used for the project. Architect/Engineer and Owner will determine specific requirements and location, and whether mockup shall be incorporated into the project.

1. Size: 50 square feet, or larger if needed to adequately illustrate the pattern and texture selected.

2. Include an area to demonstrate wall mold butt joint and if appropriate, continuation of pattern through expansion joint.

3. If design includes stone texture across top of wall, include in mockup.

4. After concrete work on mockup is completed and cured for a minimum of 28 days, and after surface is determined to be acceptable for coloring, apply color stain system.

5. After coloring is determined to be acceptable by the COR, construction of project may proceed, using mockup as quality standard.

3.3 SPECIAL TECHNIQUES

3.3.1 Forming Textured Concrete

For preparation, clean simulated stone masonry molds and make free of buildup prior to each pour. Inspect for blemishes or tears. Repair if needed following manufacturer's recommendations. Place stone molds with less than 1/4 inch separation between them. Attach molds to form securely following manufacturer's recommendations. Apply form release agent following manufacturers' recommendations. Form stripping and related construction shall avoid creating defects in finished surface. If the pattern selected has molds connecting through the middle of the stones, carefully remove the seam line created by abutting molds. Match the texture and shape of the surrounding stone, avoiding visible seams or mold marks. Place form ties at thinnest points of molds (high points of finished wall). Neatly patch the hole remaining after disengaging the protruding portion of the tie so that it will not be visible after coloring the concrete surface. Where an expansion joint must occur at a point other than at mortar or rustication joints, such as at the face of concrete texture which is to have the appearance of stone, consult manufacturer for proper treatment of expansion material.

3.3.2 Applying Color Stain System

All simulated stone surfaces that are to be stained and any patching that has been done in these areas shall be at least 30 days old. Clean surface prior to application of stain materials to assure that surface is free of latency, dirt, dust, grease, efflorescence, paint, or other foreign material, following manufacturer's instructions for surface preparation. Do not sandblast. Preferred method to remove latency is pressure washing with water, minimum 3000 psi (a rate of 3 to 4 gallons per minute), using fan nozzle perpendicular to and at a distance of 1 or 2 feet from surface. Completed surface shall be free of blemishes, discoloration, surface voids and unnatural form marks.

3.4 PROTECTION

Where exposed soil or pavement is adjacent which may spatter dirt or soil from rainfall, or where surface my be subject to over spray from other processes, provide temporary cover of completed work.

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SECTION 05500

MISCELLANEOUS METAL

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 123/A 123M	(1997ael) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 653/A 653M	(1999a) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A 924/A 924M	(1999) General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
ASTM E 488	(1996, 2003) Strength of Anchors in Concrete and Masonry Elements

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1	(2000) Structural Welding Code - Steel

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 3306	Standard Specifications for Construction (2000 Edition), Low Carbon Structural Steel

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Metal Railing; G, STR

Detail drawings indicating material thickness, type, grade, and class; dimensions; and construction details. Drawings shall include catalog cuts, erection details, manufacturer's descriptive data and installation instructions, and templates.

SD-07 Certificates

Anchors;

Submit evidence that chemical anchors meet the specified requirements.

1.3 GENERAL REQUIREMENTS

The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication. Welding to or on structural steel shall be in accordance with AWS D1.1. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. Galvanizing shall be in accordance with ASTM A 123/A 123M, ASTM A 653/A 653M, or ASTM A 924/A 924M, as applicable. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Fastenings shall be concealed where practicable. Thickness of metal and details of assembly and supports shall provide strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

1.4 DISSIMILAR MATERIALS

Where dissimilar metals are in contact, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

1.5 WORKMANSHIP

Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves. Drilling and punching shall produce clean true lines and surfaces. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Exposed connections of work in place shall not be tack welded. Exposed welds shall be ground smooth. Exposed surfaces of work in place shall have a smooth finish, and unless otherwise approved, exposed riveting shall be flush. Where tight fits are required, joints shall be milled. Corner joints shall be coped or mitered, well formed, and in true alignment. Work shall be accurately set to established lines and elevations and securely fastened in place. Installation shall be in accordance with manufacturer's installation instructions and approved drawings, cuts, and details.

1.6 ANCHORAGE

Anchorage shall be provided where necessary for fastening miscellaneous metal items securely in place.

1.7 SHOP PAINTING

Surfaces of ferrous metal except galvanized surfaces, shall be cleaned and shop coated as specified in Section 09900 PAINTING. Surfaces of items to be embedded in concrete shall not be painted. Items to be finish painted shall be prepared according to manufacturer's recommendations or as specified.

PART 2 PRODUCTS

2.1 METAL RAILING

Metal railing, including inserts in concrete, shall be steel conforming to the requirements of MNDOT 3306. Steel railing members shall be sizes as indicated on Drawings. Railpost anchorage shall be galvanized steel.

2.2 ANCHORS

Chemical concrete anchors shall be stainless steel, epoxy adhesive anchors of diameter indicated on Drawings. Minimum concrete embedment shall be as shown on Drawings. Design values listed below shall be as tested according to ASTM E 488.

1. Minimum allowable pullout value shall be 4,800 lb.

2. Minimum allowable shear value shall be 2,500 lb.

PART 3 EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

All items shall be installed at the locations shown.

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SECTION 07900

JOINT SEALING

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 C 920	(1998) Elastomeric Joint Sealants

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT)

MNDOT 3725	Standard Specifications for Construction (2000 Edition), Joint and Crack Sealer (Hot-Poured, Extra Low Modulus, Elastic Type)

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Sealant; G, MAT

Manufacturer's descriptive data including storage requirements, shelf life, curing time, instructions for mixing and application, and primer data (if required). A copy of the Material Safety Data Sheet shall be provided for each solvent, primer or sealant material. Include color charts for color selection.

1.3 ENVIRONMENTAL REQUIREMENTS

The ambient temperature shall be within the limits of 40 to 90 degrees F when the sealants are applied.

1.4 DELIVERY AND STORAGE

Materials shall be delivered to the job in the manufacturer's original unopened containers. The container label or accompanying data sheet shall include the following information as applicable: manufacturer, name of material, formula or specification number, lot number, color, date of manufacture, mixing instructions, shelf life, and curing time at the standard conditions for laboratory tests. Materials shall be handled and

stored to prevent inclusion of foreign materials. Materials shall be stored at temperatures between 40 and 90 degrees F unless otherwise specified by the manufacturer.

PART 2 PRODUCTS

2.1 NON-BITUMINOUS JOINT SEALER

Gray sealant complying with ASTM C 920, class 25, and either single-component type S, or multi-component type M. For vertical surfaces, provide non-sagging grade NS, non-traffic area use NT. For horizontal surfaces, provide pourable grade P, traffic area use T.

2.2 HOT-POURED JOINT SEALER

Hot-poured joint sealer complying with the requirements of MNDOT 3725.

2.3 BOND-BREAKER

Bond-breaker shall be as recommended by the sealant manufacturer to prevent adhesion of the sealant to backing or to bottom of the joint.

2.4 PRIMER

Primer shall be non-staining type as recommended by sealant manufacturer for the application.

2.5 SOLVENTS AND CLEANING AGENTS

Solvents, cleaning agents, and accessory materials shall be provided as recommended by the manufacturer.

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Surface Preparation

The surfaces of joints to receive sealant or caulk shall be free of all frost, condensation and moisture. Oil, grease, dirt, chalk, particles of mortar, dust, loose rust, loose mill scale, and other foreign substances shall be removed from surfaces of joints to be in contact with the sealant. Oil and grease shall be removed with solvent and surfaces shall be wiped dry with clean cloths. Comply with preparation recommendations of sealant manufacturer.

3.2 APPLICATION

3.2.1 Bond-Breaker

Bond-breaker shall be applied to fully cover the bottom of the joint without contaminating the sides where sealant adhesion is required.

3.2.2 Primer

If recommended by joint manufacturer, primer shall be applied to the joint surfaces to be sealed. Surfaces adjacent to joints shall not be primed.

3.2.3 Sealant

Sealant shall be used before expiration of shelf life. Multi-component sealants shall be mixed according to manufacturer's printed instructions. Sealant in guns shall be applied with a nozzle of proper size to fit the width of joint. Sealant shall be forced into joints with sufficient pressure to expel air and fill the groove solidly. Sealant shall be installed to the indicated depth without displacing the backing. Unless otherwise indicated, specified, or recommended by the manufacturer, the installed sealant shall be dry tooled to produce a uniformly smooth surface free of wrinkles and to ensure full adhesion to the sides of the joint; the use of solvents, soapy water, etc., will not be allowed. Sealants shall be installed free of air pockets, foreign embedded matter, ridges and sags. Sealer shall be applied over the sealant when and as specified by the sealant manufacturer.

3.3 CLEANING

The surfaces adjoining the sealed joints shall be cleaned of smears and other soiling resulting from the sealant application as work progresses.

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SECTION 09900

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SECTION 09900

PAINTING, GENERAL

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 CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH Limit Values	(1999) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-2962	(Rev A) Enamel, Alkyd (Metric)

FEDERAL SPECIFICATIONS (FS)

FS TT-E-2784	(Rev A) Enamel (Acrylic-Emulsion, Exterior Gloss and Semigloss) (Metric)

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Paint 5	(1995) Zinc Dust, Zinc Oxide and Phenolic Varnish Paint
SSPC SP 1	(1982) Solvent Cleaning
SSPC SP 2	(1995) Hand Tool Cleaning
SSPC SP 3	(1995) Power Tool Cleaning
SSPC SP 6/NACE 3	(1994) Commercial Blast Cleaning
SSPC SP 7/NACE 4	(1994) Brush-Off Blast Cleaning

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 in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Paint; G, MAT
Anti-Graffiti Coating; G, MAT

The names, quantity represented, and intended use for the proprietary brands of materials proposed to be used for the specified materials.

Mixing and Thinning;
Application;

Manufacturer's current printed product description, material safety data sheets (MSDS) and technical data sheets for each coating system. Detailed mixing, thinning and application instructions, minimum and maximum application temperature, and curing and drying times between coats for epoxy, moisture-curing polyurethane, and liquid glaze coatings. Detailed application instructions for textured coatings shall be provided.

Cleaning Product List and Instructions;

For the purpose of future maintenance, a list of manufacturer-approved products and instructions for cleaning of the surface of the anti-graffiti coating product used on the Project.

SD-07 Certificates

Lead;
Volatile Organic Compound (VOC) Content;

Certificate stating that paints proposed for use contain not more than 0.06 percent lead by weight of the total nonvolatile. Certificate stating that paints proposed for use meet Federal VOC regulations and those of the of the local Air Pollution Control Districts having jurisdiction over the geographical area in which the project is located.

Applicator Qualifications;

Provide anti-graffiti coating applicator qualifications demonstrating experience in coating applications. Include a list of recently completed graffiti-resistant coating projects. Supply name and location of project, name and telephone number of owner, and a description of products used, substrates, applicable local environmental regulations, and application procedures.

1.3 QUALITY ASSURANCE

1.3.1 Applicator Qualifications

The approved anti-graffiti coating manufacturer shall conduct a training seminar for the purpose of training applicators on anti-graffiti product technology, substrates and application methods. Applicator trainers shall be approved by and shall be in good standing with the manufacturer.

1.3.2 Test Application

Prior to full application of the anti-graffiti coating to the designated surfaces, the applicator shall apply the anti-graffiti coating to a section of the simulated stone masonry test panel described in Section 03360 SIMULATED STONE MASONRY to confirm compatibility, coverage and possible color change. Any problems or damage to the color system as a direct

result of the anti-graffiti products or surface preparation methods shall be corrected to the satisfaction of the Contracting Officer and at the Contractor's expense.

1.4 PACKAGING, LABELING, AND STORING

Paints shall be in sealed containers that legibly show the designated name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name of manufacturer. Pigmented paints shall be furnished in containers not larger than 5 gallons. Paints and thinner shall be stored in accordance with the manufacturer's written directions and as a minimum stored off the ground, under cover, with sufficient ventilation to prevent the buildup of flammable vapors and at temperatures between 40 and 95 degrees F. Paints shall be stored on the project site or segregated at the source of supply sufficiently in advance of need to allow 30 days for testing.

1.5 ENVIRONMENTAL CONDITIONS

Unless otherwise recommended by the paint manufacturer, the ambient temperature shall be between 45 and 95 degrees F when applying coatings other than water-thinned, epoxy, and moisture-curing polyurethane coatings. Water-thinned coatings shall be applied only when ambient temperature is between 50 and 90 degrees F. Epoxy, and moisture-curing polyurethane coatings shall be applied only within the minimum and maximum temperatures recommended by the coating manufacturer. Moisture-curing polyurethane shall not be applied when the relative humidity is below 30 percent.

1.6 SAFETY AND HEALTH

Work shall comply with applicable Federal, State, and local laws and regulations, and with the ACCIDENT PREVENTION PLAN, including the Activity Hazard Analysis as specified in the CONTRACT CLAUSES. The Activity Hazard Analysis shall include analyses of the potential impact of painting operations on painting personnel and on others involved in and adjacent to the work zone.

1.6.1 Worker Exposures

Exposure of workers to hazardous chemical substances shall not exceed limits established by ACGIH Limit Values, or as required by a more stringent applicable regulation.

1.6.2 Toxic Compounds

Toxic products having ineffective physiological warning properties, such as no or low odor or irritation levels, shall not be used unless approved by the Contracting Officer.

1.6.3 Training

Workers having access to an affected work area shall be informed of the contents of the applicable material data safety sheets (MDSS) and shall be informed of potential health and safety hazard and protective controls associated with materials used on the project. An affected work area is one which may receive mists and odors from the painting operations. Workers involved in preparation, painting and clean-up shall be trained in the safe handling and application, and the exposure limit, for each

material which the worker will use in the project. Personnel having a need to use respirators and masks shall be instructed in the use and maintenance of such equipment.

1.6.4 Coordination

Work shall be coordinated to minimize exposure of building occupants, other Contractor personnel, and visitors to mists and odors from preparation, painting and clean-up operations.

PART 2 PRODUCTS

2.1 PAINT

The term "paint" as used herein includes emulsions, enamels, paints, stains, varnishes, sealers, cement-emulsion filler, and other coatings, whether used as prime, intermediate, or finish coat. Paint shall conform to the requirements listed in the painting schedules at the end of this section, except when the required amount of a material of a particular batch is 50 gallons or less, an approved first-line proprietary paint material with similar intended formulation, usage and color to that specified may be used. Additional requirements are as follows:

2.1.1 Colors and Tints

Colors shall be as selected from manufacturer's standard colors, as indicated. The color of the undercoats shall vary slightly from the color of the next coat.

2.1.2 Lead

Paints containing lead in excess of 0.06 percent by weight of the total nonvolatile content (calculated as lead metal) shall not be used.

2.1.3 Chromium

Paints containing zinc chromate or strontium chromate pigments shall not be used.

2.1.4 Volatile Organic Compound (VOC) Content

Paints shall comply with applicable federal, state and local laws enacted to insure compliance with Federal Clean Air Standards and shall conform to the restrictions of the local air pollution control authority.

2.2 ANTI-GRAFFITI COATING

Anti-graffiti coatings shall be a clear, multi-component, multi-coat system designed as a permanent, non-destructive coating system for exterior architectural aesthetics. Product shall be compatible with any surface sealer and/or special surface finish that may have been previously applied to the concrete surfaces. It shall be non-yellowing, non-chalking and UV-resistant, available in a flat, matte or semi-gloss finish and shall not require re-application after graffiti removal. Coating shall not contain paraffin (wax) or elastomeric silicones. Acceptable products shall demonstrate protection from graffiti defacement, chemical staining, ghosting, shadowing and normal environmental effects without yellowing, color change, increased dirt pick-up or damage to the coating or substrate for a minimum ten-year period. Acceptable anti-graffiti coating products

are as follows:

1. Graffiti Solution System as manufactured by American Polymer Corporation
2. Conformal Anti-graffiti Coating as manufactured by Chemprobe Technologies, Inc.
3. Permaclean 1496 as manufactured by TK Products
4. Other approved products

PART 3 EXECUTION

3.1 PROTECTION OF AREAS NOT TO BE PAINTED

Items not to be painted which are in contact with or adjacent to painted surfaces shall be removed or protected prior to surface preparation and painting operations. Items removed prior to painting shall be replaced when painting is completed. Following completion of painting, workmen skilled in the trades involved shall reinstall removed items. Surfaces contaminated by coating materials shall be restored to original condition.

3.2 SURFACE PREPARATION

Surfaces to be painted shall be clean and free of foreign matter before application of paint or surface treatments. Oil and grease shall be removed prior to mechanical cleaning. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, shall be spot-primmed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas.

3.2.1 Concrete Surfaces

All concrete surfaces that are to be coated shall be cleaned to ensure that the surface is free of all laitance, dirt, dust, grease, efflorescence, graffiti, and any foreign material in order to accept the coating material according to product requirements. The Contractor shall correct, at his own expense, any surface problems he may create as a direct result of his surface preparation methods.

3.2.2 Ferrous Surfaces

Ferrous surfaces including those that have been shop-coated, shall be solvent-cleaned or detergent-washed in accordance with SSPC SP 1. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with hand tools according to SSPC SP 2, power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7/NACE 4. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection. Surfaces which are not shop primed shall be sandblasted according to SSPC SP 6/NACE 3.

3.2.3 Galvanized Ferrous Surfaces

Where painting is scheduled for a galvanized component adjacent to a painted surface, sweep blast entire surface to roughen substrate, then solvent wash entire surface.

3.3 MIXING AND THINNING

When thinning is approved as necessary to suit surface, temperature, weather conditions, or application methods, paints may be thinned in accordance with the manufacturer's directions. When thinning is allowed, paints shall be thinned immediately prior to application with not more than 1 pint of suitable thinner per gallon. The use of thinner shall not relieve the Contractor from obtaining complete hiding, full film thickness, or required gloss. Thinning shall not cause the paint to exceed limits on volatile organic compounds. Paints of different manufacturers shall not be mixed.

3.4 APPLICATION

Painting practices shall comply with applicable federal, state and local laws enacted to insure compliance with Federal Clean Air Standards. Unless otherwise specified or recommended by the paint manufacturer, paint may be applied by brush, roller, or spray. At the time of application, paint shall show no signs of deterioration. Uniform suspension of pigments shall be maintained during application. Each coat of paint shall be applied so dry film shall be of uniform thickness and free from runs, drops, ridges, waves, pinholes or other voids, laps, brush marks, and variations in color, texture, and finish. Hiding shall be complete. Rollers for applying paints and enamels shall be of a type designed for the coating to be applied and the surface to be coated. Special attention shall be given to insure that all edges, corners, crevices, welds, and rivets receive a film thickness equal to that of adjacent painted surfaces. Paints, except water-thinned types, shall be applied only to surfaces that are completely free of moisture as determined by sight or touch.

3.4.1 Respirators

Operators and personnel in the vicinity of operating paint sprayers shall wear respirators.

3.4.2 First Coat

The first coat on surfaces shall include repeated touching up of suction spots or overall application of primer or sealer to produce uniform color and gloss. Excess sealer shall be wiped off after each application.

3.4.3 Timing

Surfaces that have been cleaned, pretreated, and otherwise prepared for painting shall be given a coat of the specified first coat as soon as practical after such pretreatment has been completed, but prior to any deterioration of the prepared surface. Sufficient time shall elapse between successive coats to permit proper drying. This period shall be modified as necessary to suit weather conditions. Oil-based or oleoresinous solvent-type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause the undercoat to lift or lose adhesion. Manufacturer's instructions for application, curing and drying time between coats of two-component systems shall be followed.

3.4.4 Anti-Graffiti Coating

The surfaces to receive the Anti-Graffiti coating shall be primed with a

primer that is compatible with the Anti-Graffiti coating being used. The Anti-Graffiti coating shall then be applied to the appropriately primed concrete surfaces. Driving/walking surfaces shall not be coated. The coating shall not be applied until the simulated stone masonry stain has fully dried according to manufacturer specifications.

3.5 SURFACES TO BE PAINTED

Surfaces listed below, other than those listed in paragraph SURFACES NOT TO BE PAINTED, shall be painted as scheduled.

a. Metal railing shall be shop primed and finish painted black. Touch-up painting shall be done at completion of metal railing installation to the satisfaction of the Contracting Officer at no extra cost.

b. Simulated stone masonry surfaces shall be stained as specified in Section 03360 SIMULATED STONE MASONRY.

c. Surfaces shown on the Drawings shall receive anti-graffiti coating according to manufacturer specifications once the simulated stone masonry staining has dried.

d. Surfaces shown on the Drawings shall receive protective surface treatment as specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE.

3.6 SURFACES NOT TO BE PAINTED

Surfaces in the following areas shall not to be painted:

a. Concrete not indicated on the Drawings for protective surface treatment, simulated stone masonry, or anti-graffiti coating.

b. Metals fully embedded in concrete.

c. Factory name plates.

d. Galvanized steel items, except miscellaneous components adjacent to painted surfaces.

3.7 CLEANING

Cloths, cotton waste and other debris that might constitute a fire hazard shall be placed in closed metal containers and removed at the end of each day. Upon completion of the work, staging, scaffolding, and containers shall be removed from the site or destroyed in an approved manner. Paint and other deposits on adjacent surfaces shall be removed and the entire job left clean and acceptable.

3.8 PAINTING SCHEDULES

The following painting schedules identify the surfaces to be painted and prescribe the paint to be used and the number of coats of paint to be applied.

EXTERIOR PAINTING SCHEDULE

Surface	First Coat	Second Coat	Third Coat
Ferrous metal unless otherwise specified	SSPC Paint 5	CID A-A-2962 Type I Grade C	CID A-A-2962 Type 1 Grade C
Galvanized metal	FS TT-E-2784 Type III	FS TT-E-2784	FS TT-E-2784
Concrete designated for anti-graffiti Coating	According to manufacturer specifications		

-- End of Section --

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