



**US Army Corps
of Engineers®**
New England District

W912WJ-07-B-00xx

Milford Pond Aquatic Restoration Project Milford, Massachusetts

Construction Solicitation and Specifications

July 2007

RESTORATION OF MILFORD POND

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BIDDING SCHEDULE

Refer to Section 01270 - MEASUREMENT AND PAYMENT

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Estimated Amount</u>
<u>BASE BID ITEMS</u>					
0001	Dredging Phase I Area				
0001AA	Mobilization and Demobilization	1	Job	LS	\$ _____
0001AB	Aquatic Plant Harvesting From Phase I Area Prior To Dredging	1	Job	LS	\$ _____
0001AC	Dredging Phase I Area (Approximately 25-Acres)	250,000	CY	\$ _____	\$ _____

OPTIONAL BID ITEM

0002	Dredging Phase II Area				
0002AA	Mobilization and Demobilization	1	Job	LS	\$ _____
0002AB	Aquatic Plant Harvesting From Phase II Area Prior To Dredging	1	Job	LS	\$ _____
0002AC	Dredging Phase II Area (Approximately 20-Acres)	170,000	CY	\$ _____	\$ _____

TOTAL ESTIMATED AMOUNT FOR LINE ITEMS No. 0001-0004 \$ _____

Note 1: Bidders must bid all items. The work will be awarded as a whole to one bidder, including the optional item, if exercised by the Government. Offers will be evaluated and the low bidder determined by the Total Estimated Amount for Line Items 0001-0002, including the Base Bid Items and the Option Item. The minimum work awarded will be the Base Bid Item work.

Note 2: Line Item No. 0002 above is an Optional Line that may be exercised by the Government. If the Government chooses to exercise its option for award of the Option Line Item, a modification to the contract will be issued at the time of contract award. If the Option Bid Item is exercised

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by the Government, additional time will be added to the contract and all work for the exercised Option Item shall be completed within the time specified in Section 00800, SPECIAL CONTRACT REQUIREMENTS, Article 1.1.a.(3).

PLANT AND EQUIPMENT LIST

The bidder must complete the following plant and equipment list by listing the plant available to the Bidder and proposed to be used on the work of this contract. Add additional pages as necessary. Attach the completed list to the BIDDING SCHEDULE and submit the list with the bid. Failure to complete this list and submit it with the BIDDING SCHEDULE may be cause for the rejection of the bid. Prior to commencement of work at the site, the Contractor will be required to submit for review copies of all applicable current inspections, certificates and surveys for all floating plant

BUCKET DREDGES (Clamshell/Dipper/Excavator/Dragline)

Dredge Name and Type	Manufacturer and Age	Bucket Size and Swings/Hour	Capacity – Cubic Yards/Month*	Type and HP of Engine

HYDRAULIC/SUCTION/HOPPER DREDGE

Dredge Name and Type	Manufacturer and Age	Inside Diameter of Discharge Pipe	Capacity – Cubic Yards/Month*	Type and HP of Pump Engine

BARGES/SCOWS

Name And Type	Manufacturer And Age	Length & Beam	Draft - Light	Draft - Loaded	Capacity (Cubic Yards)	Number and Size Of Drills

ATTENDANT PLANT (Give columnar information pertinent to items listed, if to be used)

	Name	Manufacturer And Age	Type and HP Of Engine	Length & Beam	Remarks
Tug					
Tug					
Launch					

(*) When working materials similar to those anticipated to be encountered in the performance of work

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- 1.7 LABORATORY TESTS

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GEOTECHNICAL DATA

PART 1 GENERAL

1.1 SUMMARY

The surface conditions indicated on the contract drawings and in the specifications are the result of site surveys, borings, and laboratory tests. The Sediment Analysis, Location Plan, and Geologic Cross-Section are located in the Appendix at the end of the specifications.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referenced to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 854	(2000) Test Methods for Specific Gravity of Soil Sands by Water Pycnometer
ASTM D 2216	(1998) Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock
ASTM D 2487	(2000) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2488	(2000) Description and Identification of Soils (Visual-Manual Procedure)
ASTM D 2974	(2000) Test method for Moisture, Ash and Organic Matter of Peat and Organic Soil

1.3 EXAMINATION OF SAMPLES

Subsurface explorations were performed by Baystate Environmental Consultants, Inc. for the Corps of Engineers. Pertinent subsurface information is shown on the contract drawings and in the Appendix attached to the specifications.

1.4 EXISTING REPORTS AND HISTORICAL DATA

Existing reports and historical data, relative to the dredging of the Milford Pond are available for viewing at the Corps of Engineers New England District, 696 Virginia Road, Concord, MA. Advance arrangements to view the reports may be made with Mr. Michael Tuttle, the Study Manager, at 978-318-8677.

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1.5 SOIL CLASSIFICATION

The soil classification of the Corps of Engineers soil samples was done in accordance with ASTM D 2488 in the field and ASTM D 2487 in the laboratory.

1.6 INTERPRETATION

Subsurface investigation data are provided only for information purposes and for the convenience of the Contractor. The data shown on the Sediment Analysis Report is for the specific locations indicated only and no assurance is given that these conditions are representative of conditions between borings or areas adjacent thereto. The responsibility lies with the Contractor to interpret subsurface conditions that may affect his work.

1.7 LABORATORY TESTS

Laboratory tests were generally performed in accordance with the following test methods:

- a. Moisture Content: ASTM D 2216.
- b. Organic Content: ASTM D 2974.
- c. Particle-Size Analysis: ASTM D 422.
- d. Specific Gravity: ASTM D 854.

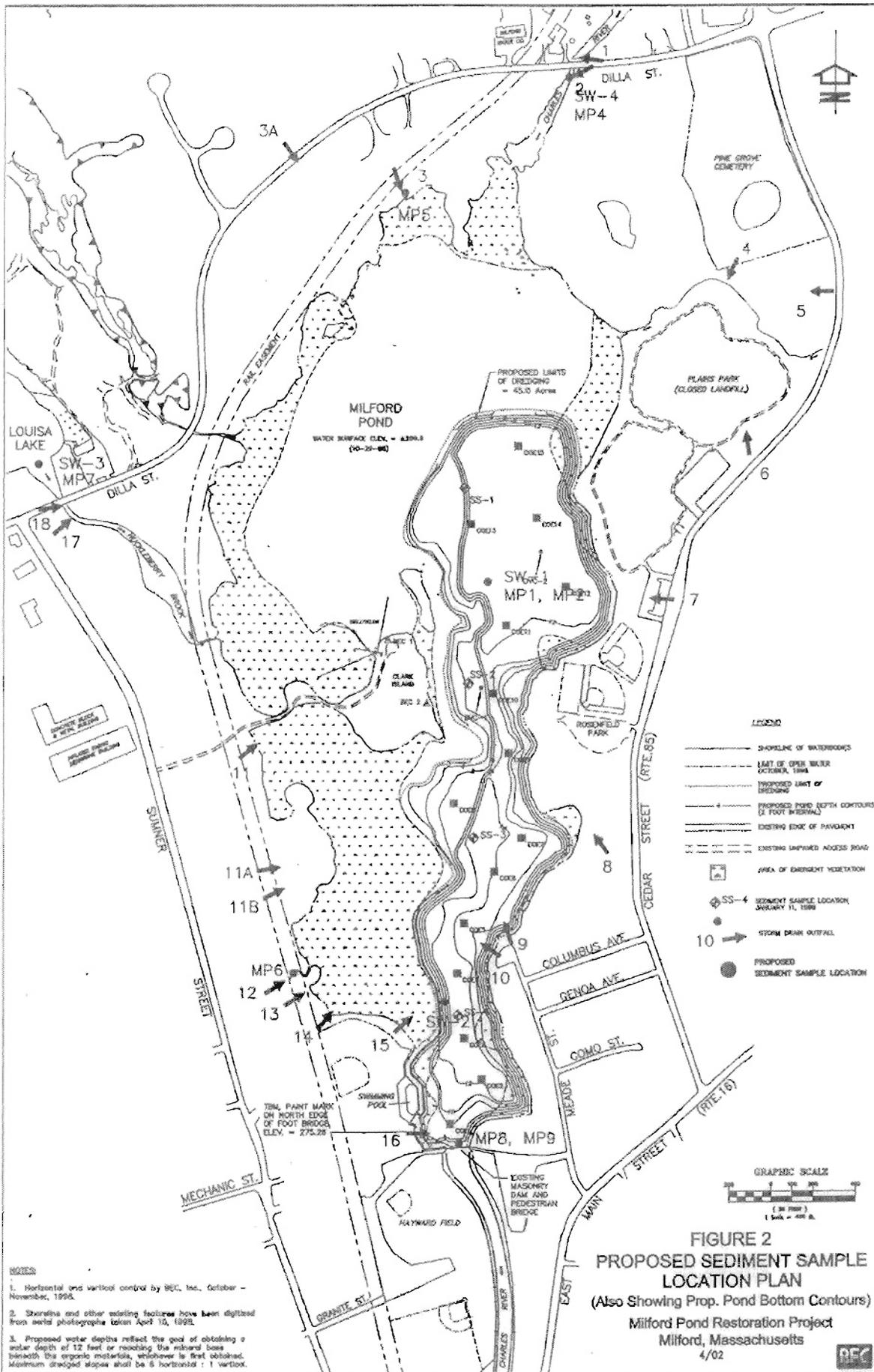
Note: Not all samples were tested in the laboratory using all the methods described above.

-- End of Document --

**Millford Pond
Sediment Analysis
at Chemical and Physical**

	Sample Date: January 11, 1989				Sample Date: May 30, 2002														
	SS-1	SS-2	SS-3	SS-4	COE-1	COE-2	COE-3	COE-4	COE-5	COE-6	COE-7	COE-8	COE-9	COE-10	COE-11	COE-12	COE-13	COE-14	COE-15
Solids, Total (%)	8.3	8.8	8.6	10	11	8.8	8.6	9.6	9.9	9.7	12	12	23	24	11	9.6	10	9.4	10
Solids, Total Volatile (%)	00	76	58	58	64	80	80	64	67	56	76	60	12	23	58	55	75	52	55
pH (SU)	6.3	5.9	5.9	6.7															
Buffer pH (SU)	5.89	5.94	6.23	5.93															
Exchangeable Acidity (meq/100g)	47	55	39	48															
Nitrogen, Ammonia (mg/kg)	290	180	190	330															
Nitrogen, Nitrite (mg/kg)	ND	ND	ND	ND															
Nitrogen, Nitrate (mg/kg)	ND	ND	ND	ND															
Nitrogen, Total Kjeldahl (mg/kg)	21000	16000	11000	14000															
Phosphorus, Total (mg/kg)	380	170	370	500															
Hydrocarbons, Total (IR) (mg/kg)	ND	ND	ND	ND															
Moisture (%)	92	91	91	90															
Total Organic Carbon (%)	15.5	19.6	17.1	15.4	17.0	14.6	17.5	27.5	6.45	18.0	23.9	30.8	22.2	26.3					
Particle Size (% passing) - By Sieve																			
Sieve, #1 inch (%)	100	100	100	100															
Sieve, #4 (%)	93.8	86	82	95.2	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sieve, #10 (%)	89	83	78	91	100	100	98.6	100	100	100	100	100	99.8	100	99.9	99.0	100	100	100
Sieve, #20 (%)	81	71	70	83															
Sieve, #40 (%)	74	66	62	79	94.4	100	97.5	98.9	99.8	99.7	99.8	92.9	54	91.6	100	99.6	96.4	99.9	99.9
Sieve, #60 (%)	71	62	58	76															
Sieve, #140 (%)	63	57	50	66															
Sieve, #200 (%)	60	56	48	63	79	97.0	93.3	91.0	96.2	94.9	98.7	61	18	47	94	79	76	86.9	99.5
Particle Size - By Hydrometer																			
Sand* (>63um) (%)	59	62	44	60	38	30	30	19	15	23	29	45	81	54	30	38	28	21	19
Coarse Silt (20-63um) (%)	21	18	25	33	8.3	19	14	9.9	16	4.1	15	17	6.7	30	21	8.7	14	3.1	11
Medium Silt (6-20um) (%)	15	15	23	23	22	21	22	46	30	24	28	18	5.7	12	20	31	25	37	25
Fine Silt (2-6um) (%)	4.5	4.4	4.3	4	21	25	18	24	28	34	24	9.8	3.8	2.1	18	13	13	31	32
Clay (<2um) (%)	ND	ND	ND	ND	10	4.8	16	7.1	11	15	3.9	8.6	2.3	2.2	10	9.0	16	7.2	12
Organic Matter, Total (%)	6.7	8.5	5	5.8															

*Blank shaded cells indicate parameter was not measured for this sample date.
 ND= Not detected - indicates the constituent was not present in quantities above the Method Detection Limit (MDL)



NOTES:

1. Horizontal and vertical control by BEC, Inc., October - November, 1995.
2. Shoreline and other existing features have been digitized from aerial photographs taken April 10, 1995.
3. Proposed water depths reflect the goal of obtaining a water depth of 12 feet or reaching the mineral base beneath the organic materials, whichever is first obtained. Maximum dredged slopes shall be 6 horizontal : 1 vertical.

FIGURE 2
PROPOSED SEDIMENT SAMPLE LOCATION PLAN
 (Also Showing Prop. Pond Bottom Contours)
 Milford Pond Restoration Project
 Milford, Massachusetts
 4/02



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- 1.3 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000) DFARS 252.236-7001
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SECTION 00800

SPECIAL CONTRACT REQUIREMENTS

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

a. The Contractor shall be required to--

(1) commence work under this contract within 15 calendar days after the date the Contractor receives the notice to proceed,

(2) prosecute the work diligently, and

(3) complete the BASE BID work ready for use not later than November 01, 2007, and complete the OPTION ITEM work, if the OPTION is exercised by the Government, not later than November 01, 2008. The times stated for completion shall include final cleanup of the premises.

b. In order to limit the disruption of the breeding and pre-migration activities of the state listed endangered species, no work in the proximity of this species habitat shall occur between 1 April and 30 September, inclusive. Dredging near the state listed endangered species habitat shall be performed only from 1 October through 31 March. Upon receipt of notice to proceed, the Contractor shall promptly place all orders, award subcontracts, process required submittals and details to ensure effective action when construction operations at the site are required to commence.

1.2 LIQUIDATED DAMAGES - CONSTRUCTION (Sept 2000) FAR 52.211-12

(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 [\$.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.

1.3 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000) DFARS 252.236-7001

(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. The drawings will be provided to the Contractor 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;

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- (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 to the contract drawings. The Contract Drawings are identified on the "Index to Drawings" found on Sheet No. 1, G-001 of the set of Contract Drawings.

1.4 DREDGING SAFETY MANAGEMENT PROGRAM (DSMP)

NOTE: See also Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS.

The Contractor shall comply with the provisions of EM 35-1-1. If the Contractor is a currently accepted participant in the Dredging Contractors of America (DCA)/United States Army Corps of Engineers (USACE) Dredging Safety Management Program (DSMP), as determined by the DCA/USACE Joint Committee, and holds a current valid Certificate of Compliance for both the Contractor Program and the Dredge(s) to be used to perform the work required under this contract, the Contractor may, in lieu of the submission of an Accident Prevention Plan (APP),

- (1) make available for review, upon request, the Contractor's current Safety Management System (SMS) documentation,
- (2) submit to the Contracting Officer the current valid Company Certificate of Compliance for its SMS,
- (3) submit for review and acceptance, site-specific addenda to the SMS as specified in the solicitation.

1.5 DESIGNATED BILLING OFFICE

Reference Contract Clause titled "PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS" located in SECTION 00700, CONTRACT CLAUSES. The "designated billing office" will be the Construction Area Engineer, Resident Engineer or project office where the Contracting Officer Representative for this contract is located. The Contractor will be notified of the exact location of this office at the project preconstruction conference specified in Section 01110 SUMMARY OF WORK.

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1.6 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 CLAUSE entitled, "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 WORK DAYS
BASED ON 5 DAY WORK WEEK

<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>
(9)	(8)	(3)	(3)	(2)	(2)
<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
(2)	(3)	(2)	(3)	(3)	(7)

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 work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in 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 clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)."

1.7 BID GUARANTEE (SEP 1996) FAR 52.228-1

(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

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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 percent of the bid price or \$3,000,000, whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

1.8 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) FAR 52.236-1

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty percent (20%) 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.

1.9 WARRANTY OF CONSTRUCTION (MAR 1994) FAR 52.246-21 Alternate I

(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.

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(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.

1.10 OBSTRUCTION OF NAVIGABLE WATERWAYS DFAR 252.236-7002 (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

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(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.).

1.11 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION
(DEC 1991) DFARS 252.236-7004.

a. The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.

(1) Sixty percent of the lump sum price upon completion of the Contractor's mobilization at the work site.

(2) The remaining 40 percent upon completion of demobilization.

b. The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs a(1) and a(2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of --

(i) Actual mobilization costs at completion of mobilization;

(ii) Actual demobilization costs at completion of demobilization;
and

(iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph b(1) of this clause is not subject to appeal.

1.12 QUANTITY SURVEYS (APR 1984) ALTERNATE 1 FAR 52.236-16

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Government shall conduct the original and final surveys and make the computations based on them. The Contractor shall conduct the surveys for any periods for which progress payments are requested and shall make the computations based on these surveys. All surveys conducted by the Contractor shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress

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payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

1.13 DREDGING (1998 JANUARY HQUSACE)

(1) Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of material within the required dredging prism, including the associated side slopes, varies more than 15 percent above or below the stated estimated quantity within the required dredging prism, an equitable adjustment in the contract unit price will be made upon demand of either party. The equitable adjustment will be based upon any increase or decrease in the costs due solely to the variations above 115 percent or below 85 percent of the estimated quantity within the required dredging prism. Any equitable adjustment in the contract unit price will also apply to that part of the actual quantity of allowable over-depth material above 115 percent or below 85 percent of the estimated allowable over-depth quantity.

(2) If the quantity variation is such as to cause an increase in the time necessary for completion, the Contracting Officer shall upon receipt of a written request for an extension of time within 10 days from the beginning of such delay, or within such further period of time which may be granted by the Contracting Officer prior to the date of final settlement of the contract, ascertain the facts and make such adjustment for extending the completion date as in their judgment the findings justify.

-- End of Section --

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SECTION 01110

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SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

The general description below is given to indicate the approximate scope of this project only. It does not limit the work required under the project drawings and specifications.

The work of this project consists of the dredging a 45±-acre section of Milford Pond to a maximum depth of 12 feet or the mineral base beneath the organic sediments, whichever is obtained first. (Base Bid to require dredging 25-acres, Option for dredging the remaining 20-acres).

This partial dredging program achieves the desired restoration for Milford Pond, balancing the restoration of aquatic habitat with the preservation of the emergent wetland and dense aquatic weed bed habitats within the Milford Pond basin.

The work requires the Contractor to clear and grub the designated dewatering and disposal site at Dilla Street. The Contractor shall use the 5.0 acre site, avoiding wetlands and providing necessary setbacks to control erosion and sedimentation.

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

Progress Schedule; G, RO

In accordance with the contract clauses, the Contractor shall, within fifteen (15) days after receipt of notice to proceed or as otherwise determined by the Contracting Officer, submit for approval a practicable progress schedule. When changes are authorized that result in contract time extensions, Contractor shall submit a modified chart for approval by the Contracting Officer.

1.3 PROJECT/SITE CONDITIONS

1.3.1 Physical Data

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.

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a. Site Conditions: The indications of physical conditions on the drawings and in the specifications are the result of site investigations and surveys. The conditions represented prevailed at the time the investigations and surveys were made. [A pre-dredge survey may be performed by the Government prior to the start of Contractor dredging operations at the site.] Before commencing work at the site, the Contractor shall verify the existing conditions indicated on the drawings and in the specifications. See CONTRACT CLAUSE entitled "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK."

b. Weather Conditions: The monthly normal mean temperature and the monthly normal mean precipitation for the site may be obtained by the Contractor from the nearest U.S. National Weather Service Office.

c. Milford Pond is located less than 1 mile south of Interstate 495 in the center of the Town of Milford, in Worcester County, Massachusetts. The 120-acre pond is formed by the impoundment of the Charles River with inflow from Huckleberry Brook, Louisa Lake, an intermittent stream and 17 storm water outfalls. The pond outlet flows over a small masonry dam and continues as the main channel of the Charles River through the Town of Milford to Boston Harbor. The overall watershed size is 5440 acres (8.5 square miles), and it extends beyond the municipal boundaries of the Town of Milford into the Towns of Hopkinton and Holliston. Milford Pond was historically a cedar swamp located in the headwaters of the Charles River. In time, the cedar swamp was converted into a pond through the cutting of the large cedar trees and the construction of an impoundment across the Charles River approximately 100 feet downstream of Main Street in the early 1900's. Constructed around 1938, the present dam consists of an earth embankment with a cast-in-place concrete primary spillway. This intermediate-sized dam, presently owned by the Town of Milford, is approximately 200 feet in length with a reported structural height of 8 to 11 feet.

1.4 SEQUENCING AND SCHEDULING

1.4.1 Hours of Operations

The Contractor will be allowed to perform dredging, dewatering, and disposal work 12 hours per day (7:00 AM to 7:00 PM), 7 days per week, including holidays, during the time period dredging is permitted.

1.4.2 General

There are certain essential criteria relative to the preparation of a work sequence and time schedule which the Contractor will be required to implement and follow during the prosecution of the work. See Section 02482 for the required order of work. Minor variations in the sequence of the items of work as approved may be made by the Contractor, provided such variations do not conflict with critical elements of the schedule. Proposed minor variations shall be noted on the progress charts submittal required by CONTRACT CLAUSE, entitled "SCHEDULES FOR CONSTRUCTION CONTRACTS." Variations shall be approved by the Contracting Officer prior to implementation.

1.4.3 Progress Schedule

The progress schedule shall be in the form of a chart graphically

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indicating the sequence proposed to accomplish each work feature or operation. The chart shall be prepared to show the starting and completion dates of all work features on a linear horizontal time scale beginning with date of Notice to Proceed and indicating calendar days to completion. Contractor shall indicate on the chart the important work features or operations that are critical to the timely overall completion of the project. Key dates for such important work features and portions of work features are milestone dates and shall be so indicated on the chart. This schedule will be the medium through which the timeliness of the Contractor's construction effort is appraised. Anticipated adverse weather delay days shall be included in the schedule.

1.4.4 Organization at the Site

1.4.4.1 General

The Contractor shall employ ample personnel and sufficient equipment to accomplish the work of this contract in the least amount of time, within the prosecution period specified in SPECIAL CONTRACT REQUIREMENTS, Paragraph 1.

1.4.4.2 Rate of Progress

Should the Contractor fail to maintain a satisfactory rate of progress, the Contracting Officer may require that additional personnel and equipment be placed on the work and weekend and overtime work be performed, in order that the work be brought up to schedule and maintained.

1.5 CONTRACTOR USE OF PREMISES

1.5.1 Storage Areas

See Section 01500 TEMPORARY FACILITIES AND CONTROLS.

1.5.2 Work Limits

The limits of work are shown on the contract drawings and the side slope areas which must be dredged to obtain the required depth.

1.5.3 Contractor's Receipt of Supplies

The Contractor shall be responsible for all arrangements for the receipt of materials and supplies at the job site. Government personnel are not permitted to receive or sign for items delivered to the site.

1.5.4 Access to Work Site

Access to the project site is limited as shown on the drawings.

1.6 COORDINATION

1.6.1 Public Notice

The Contractor shall notify the public of this dredging project approximately two weeks before commencement of dredging operations at the site. A brief description of the work to be performed and the intended schedule of dredging and disposal operations shall be published in a newspaper of general circulation in the area adjacent to the dredging. The notice shall include the locations where the work is to be performed,

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including pumping routes, and the time sequence of events. The notice shall include the Contractor's point of contact and telephone number.]

1.6.2 Points of Contact

Town Engineer: Mike Santora; 508-634-2317

1.7 PRECONSTRUCTION CONFERENCE

The Contracting Officer will conduct a preconstruction conference with key Contractor personnel. The purpose of the conference is to review contract requirements and to establish a working relationship between the Contractor's Staff and the Corps of Engineers personnel who will be closely associated with the project. During the conference, the Contracting Officer will inform the Contractor concerning Job Safety, Quality Control, Labor Relations, and Environmental Protection. The Contractor's Superintendent, Quality Control Representative, and Site Safety and Health Officer (SSHO) shall attend this conference. All submittals which are ready for submission prior to start of work may be brought to the conference for distribution to the participating reviewers.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 REFERENCES (Not Applicable)

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-05 Design Data

Quantity Surveys

Submit originals of all field notes and all other records relating to the quantity surveys.

1.3 GENERAL

1.3.1 Lump Sum Payment Items

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.3.2 Unit Price Payment Items

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items. Submit originals of all field notes and all other records relating to Quantity Surveys.

1.3.3 Bidding Schedule - Payment Items

Payment items for the work of this contract on which the contract progress payments will be based are listed in the BIDDING SCHEDULE and are described below. All costs for items of work, which are not specifically mentioned to be included in a particular Bidding Schedule lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved.

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1.4 PAYMENT ITEMS FOR MOBILIZATION AND DEMOBILIZATION"

BASE BID Payment Item No. 0001AA "Mobilization and Demobilization"

OPTION BID Payment Item No. 0002AA "Mobilization and Demobilization"

a. Payment for each of the above items of work will be made for costs associated with mobilization and demobilization for dredging operations, as defined in Special Contract Requirements clause "PAYMENT FOR MOBILIZATION AND DEMOBILIZATION."

b. Unit of measure: lump sum (LS).

1.5 PAYMENT ITEMS FOR AQUATIC PLANT HARVESTING

BASE BID Payment Item No. 0001AB, "Aquatic Plant Harvesting From Phase I Area Prior to Dredging"

OPTION BID ITEM Payment Item No. 0002AB "Aquatic Plant Harvesting From Phase II Area Prior To Dredging"

a. The contract price per cubic yard for the Payment Items listed above shall include all cost associated with operations necessary for harvesting and disposing of aquatic plants prior to dredging operations from the applicable areas indicated on contract drawings.

b. Unit of measure: lump sum (LS).

1.6 PAYMENT ITEMS FOR DREDGING, STOCKPILING AND DISPOSAL

BASE BID Payment Item No. 0001AC "Dredging Phase I Area (Approximately 25-Acres)"

OPTION BID ITEM Payment Item No. 0002AC "Dredging Phase II Area (Approximately 20-Acres)"

a. The contract price per cubic yard for the Payment Items listed above shall include all cost of dredging, stockpiling and disposal of all materials from the applicable areas indicated on contract drawings.

b. The total amount of material removed and paid for under the contract for each of the Items, will be measured by the cubic yard in place by computing the volume between the bottom surface shown by soundings of the last pre-dredge survey made before dredging begins and the bottom surface shown by the soundings of a post-dredge survey made as soon as practicable after the removal of the material, including that within the limits of the side slopes.

c. The contract drawings listed in Special Contract Requirements, Paragraph "Contract Drawings, Maps and Specifications" are believed to accurately represent conditions existing on the date of the survey shown on the drawings, but the depths and the specific areas to be dredged shown thereon may be verified and corrected by soundings taken by the Government before dredging begins. Determination of quantities removed and the deductions made to determine quantities after having once been made by the Contracting Officer, will not be reopened, except on evidence of collusion, fraud, or obvious error.

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d. Monthly partial payments will be based on approximate quantities determined by Contractor quality control surveys. The pre-dredge survey made before dredging, and the post-dredge survey made as soon as practicable after the removal of the material, will be performed by the Government at no cost to the Contractor.

e. Unit of measure: cubic yard (CY).

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. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site. 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

1.1.1 Correspondence and Electronic Communications

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.

1.1.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01330, SUBMITTAL PROCEDURES, and Section 01451, CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS. Also, 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

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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 is the minimum system configuration that the Contractor shall have to run QCS:

RMS Server

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor
1000+ MB RAM
1 GB free disk space
3 1/2 inch high-density floppy drive
Compact Disk (CD) Reader 8x speed or higher
TCP/IP Network/Internet Connection

Software

Windows 2000 or higher
Oracle 8i Server
Virus protection software that is regularly upgraded with all issued manufacturer's updates

Personnel

Oracle Database Administrator (DBA)

RMS Workstation

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor
256+ MB RAM for workstation
500 MB free disk space
3 1/2 inch high-density floppy drive
Compact Disk (CD) Reader 8x speed or higher
SVGA or higher resolution monitor (1024x768, 256 colors)
Mouse or other pointing device
Windows compatible printer. (Laser printer must have 4 MB+ of RAM)

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TCP/IP Network/Internet Connection

Software

MS Windows 2000 or higher

Oracle 8i Client

Word Processing software: MS Word 2000 or newer

Latest version of: Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher

Electronic mail (E-mail) MAPI compatible

Virus protection software that is regularly upgraded with all issued manufacturer's updates

QCS and QAS System

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor

256+ MB RAM for workstation / 512+ MB RAM for server

1 GB hard drive disk space for sole use by the QCS system

3 1/2 inch high-density floppy drive

Compact Disk (CD) Reader 8x speed or higher

SVGA or higher resolution monitor (1024x768, 256 colors)

Mouse or other pointing device

Windows compatible printer. (Laser printer must have 4 MB+ of RAM)

Connection to the Internet, minimum 56k BPS

Software

MS Windows 2000 or higher

QAS-Word Processing software: MS Word 2000 or newer

Latest version of: Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher

Electronic mail (E-mail) MAPI compatible

Virus protection software that is regularly upgraded with all issued manufacturer's updates

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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 with the Contractor's QC System Manager during the mandatory CQC Training class.

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, generally by files attached to E-mail. 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 by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see Paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). 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, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

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. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

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

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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 by E-mail with file attachment(s). If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. 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 Control 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.

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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 300.

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.

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1.6.4 Submittal Management

The Government will provide the initial 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 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 "Schedules for Construction Contracts". This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF). 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 using SDEF.

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 VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. 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.

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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 01330
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal

Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

1.1.2 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

- Certificates of insurance.
- Surety bonds.
- List of proposed subcontractors.
- List of proposed products.
- Construction Progress Schedule.
- Submittal register.
- Schedule of prices.
- Health and safety plan.
- Work plan.
- Quality control plan.
- Environmental protection plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

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SD-05 Design Data

Calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

1.1.3 Approving Authority

Office authorized to approve submittal.

1.1.4 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

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

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otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal register; G, RO

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.3.1 Government Approved

Government 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."

1.3.2 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.

1.4 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 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.

1.5 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.

1.6 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.7 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those

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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.

1.8 SUBMITTAL REGISTER

At the end of this section is a submittal register 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).

1.9 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 21 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.

1.10 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 QCS software that the Contractor is required to use for 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.

1.11 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

1.11.1 Procedures for Review Copies

Submit seven (7) copies of each submittal item with an attached ENG FORM 4025 Transmittal Form. The Contractor will be informed at the

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pre-construction conference to send all submittals to either the project Resident Office or to the project Area Engineer Office, as applicable.

a. Construction/Operations Division ("RO" Reviewer): An "RO" in column "f" indicates that the submittal review action is by New England District Construction/Operations Division.

b. Engineering/Planning Division ("DO" Reviewer): An "DO" on the attached submittal register, column "f" indicates that the submittal review action is by the New England District, Engineering/Planning Division.

c. A "G" followed by "A" on the attached submittal register, column "f" indicates that the submittal review action is by the New England District, Construction/Operations Division and that the submittal requires Government acceptance.

1.11.2 Information on Submittal Status

All Contractor requests for current status of submittal reviews shall be made through the Resident Engineer.

1.11.3 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.

1.12 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.13 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 two copies of the submittal will be returned to the Contractor.

1.14 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.

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1.15 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

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<p>CONTRACTOR</p> <p>(Firm Name)</p> <p>_____ Approved</p> <p>_____ Approved with corrections as noted on submittal data and/or attached sheets(s).</p> <p>SIGNATURE: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>
--

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

CONTRACTOR

TITLE AND LOCATION

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(a)	(b)	(c)	(d)	(e)	(f)	CONTRACTOR SCHEDULE DATES		CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS	
						APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE OF ACTION	DATE FWD TO APPR AUTH	DATE FWD TO OTHER REVIEWER	DATE FWD TO OTHER REVIEWER		DATE OF ACTION
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	CLASSIFICATION	GOVT CLASSIFICATION	DATE FWD TO APPR AUTH	DATE FWD TO OTHER REVIEWER	DATE OF ACTION	DATE FWD TO OTHER REVIEWER	DATE FWD TO OTHER REVIEWER	DATE OF ACTION	DATE RCD FROM CONTR	DATE RCD FROM APPR AUTH
	01110		SD-01 Preconstruction Submittals											
	01270		Progress Schedule	1.4.3	G RO									
	01330		Quantity Surveys	1.3.2										
	01355		SD-01 Preconstruction Submittals		G RO									
	01356		Submittal register											
			SD-01 Preconstruction Submittals	1.7	G RO									
			Environmental Protection Plan											
			SD-07 Certificates											
			Mill Certificate or Affidavit	2.1.3	G RO									
			Turbidity Curtain	2.3.1	G RO									
			Turbidity Curtain	3.3	G RO									
	01500		SD-01 Preconstruction Submittals											
			Site Plan		G RO									
			SD-02 Shop Drawings											
			Temporary Electrical System		G RO									
	01525		SD-01 Preconstruction Submittals											
			Accident Prevention Plan (APP)	1.7	G A									
			Activity Hazard Analysis (AHA)	1.8	G A									
			Crane Critical Lift Plan	1.7.1	G A									
			Crane Operators	1.6.1.2	G A									
			Proof of qualifications for site safety and health officer	1.6.1.1	G A									
			Safe access plan (to and from all floating plant and docks)	3.1.2	G A									
			SD-06 Test Reports											

SUBMITTAL REGISTER

CONTRACT NO

CONTRACTOR

TITLE AND LOCATION

RESTORATION OF MILFORD POND

(a)	(b)	(c)	(d)	(e)	(f)	CONTRACTOR SCHEDULE DATES		CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS		
						APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION	DATE OF ACTION		DATE RCD FROM APPR AUTH	
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	CLASSIFICATION	GOVT OR CLASSIFICATION	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION	DATE OF ACTION	DATE RCD FROM APPR AUTH	REMARKS
	01525		Reports	1.12											
			Accident Reports	1.12.1											
			Crane Reports	1.12.3											
			Regulatory Citations and Violations												
	01545		SD-01 Preconstruction Submittals												
			Plant and Equipment	1.3.1											
	01723		SD-01 Preconstruction Submittals												
			Survey Plans			G RO									
			Layout Plan			G RO									
			Survey Personnel	3.1.1											
			SD-05 Design Data												
			Field Survey Data												
	02325		SD-01 Preconstruction Submittals												
			Work Plan			G RO									
			Testing Laboratories			G RO									
			SD-02 Shop Drawings												
			Layout of the Dewatering Unit			G RO									
			SD-03 Product Data												
			Turbidity Curtains			G RO									
			Aquatic Plant Harvesting Equipment			G RO									
			Dredging Equipment			G RO									
			Dewatering Unit			G RO									
			Transportation Information												
			Chemical Amendments/Additives			G RO									

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.

A --	Approved as submitted.	E --	Disapproved (See attached).
B --	Approved, except as noted on drawings.	F --	Receipt acknowledged.
C --	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX --	Receipt acknowledged, does not comply as noted with contract requirements.
D --	Will be returned by separate correspondence.	G --	Other (Specify)
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01355

ENVIRONMENTAL PROTECTION

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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 within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety and Health Requirements Manual

WETLAND MANUAL Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328 Definitions of Waters of the United States

40 CFR 302 Designation, Reportable Quantities, and Notification

40 CFR 355 Emergency Planning and Notification

40 CFR 68 Chemical Accident Prevention Provisions

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 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

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1.2.4 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 comply with all applicable environmental Federal, State, and local laws and regulations. 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, RO

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

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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 training the Contractor's environmental protection personnel.
- c. Description of the Contractor's environmental protection personnel training program.
- d. 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.
- e. 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.
- f. 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.
- g. 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

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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 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.
- h. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including debris collected during dredging operations. 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.
- i. 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.
- j. The Natural Heritage and Endangered Species Program (NHESP) requires the detailing of how the Contractor shall perform the removal and disposal of the aquatic exotic/invasive plants (Base Bid Item - Aquatic Plant Harvesting).
- 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.

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1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause 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 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 SPECIAL ENVIRONMENTAL REQUIREMENTS

The Contractor shall maintain a minimum 50-foot setback from the state listed endangered species habitat and the dredging footprint as indicated on the contract drawings. In order to limit the disruption of the breeding and pre-migration activities of the listed species, the Contractor shall sequence the work to avoid work near the habitat of concern between 1 April and 30 September.

1.10 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.

1.11 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 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.

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PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained the listed environmental permits issued for this project. A Water Quality Certification (WQC) issued by the Massachusetts Department of Environmental Protection and "Order of Conditions" issued by the Milford Conservation Commission have been obtained for this project. The Contractor shall comply with permit terms and conditions that are applicable to this contract. Such applicable terms and conditions have been extracted from the permits and are specified in the various sections of these specifications and on the contract drawings. The above referenced documents shall not be relied on for contract requirements. In the event a discrepancy is discovered between the reference documents and these specifications or the contract drawings, the Contractor shall notify the Contracting Officer for clarification. The Contracting Officer will rely on permit requirements and conditions to resolve perceived conflicts. Copies of Permits and "Order of Conditions" obtained for this project are included at the end of this section for reference only.

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, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified 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.

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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) as indicated on the drawings and as specified in Section 01356 EROSION AND SEDIMENT CONTROL MEASURES. 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, and stockpile storage 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 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 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands except as authorized herein. The Contractor shall be responsible for the protection of wetlands shown on the drawings in accordance with the requirements of these specifications. 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, 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, and other work areas within or outside the project boundaries free from

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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, 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 the provisions of the State of Massachusetts rules.

3.4.4 Burning

Burning shall be prohibited on the premises.

3.5 BIOLOGICAL RESOURCES

Except as otherwise specified, 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.

3.6 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.

3.7 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.

3.8 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

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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.

3.9 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "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.

-- End of Section --

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SECTION 01356

EROSION AND SEDIMENT CONTROL MEASURES

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 4439	(1997) Standard Terminology for Geosynthetics
ASTM D 4491	(1996) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996)) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1995) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(1995) Identification, Storage, and Handling of Geosynthetic Rolls

1.2 GENERAL

The Contractor shall implement the storm water pollution prevention measures specified in this section in a manner which will meet the requirements of Section 01355 ENVIRONMENTAL PROTECTION.

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-07 Certificates

Mill Certificate or Affidavit; G, RO

Certificate attesting that the Contractor has met all specified requirements.

Turbidity Curtain; G, RO

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Submit for review and approval the turbidity curtain details from the Manufacturer. Details of the floatation boom, pervious geotextile fabric, tension cable, ballast, and anchors and anchor lines shall be submitted.

1.4 EROSION AND SEDIMENT CONTROLS

The controls and measures required by the Contractor are described below.

1.4.1 Stabilization Practices

The stabilization practices to be implemented shall include silt curtains, temporary seeding, mulching, geotextiles, erosion control mats, protection of trees, preservation of mature vegetation, etc. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., sediment dewatering, clearing and grubbing, excavation, embankment, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.4.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.4.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased.

1.4.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices.

1.4.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Final removal of silt fence barriers shall be upon approval by the Contracting Officer.

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1.4.2.2 Straw Bales

The Contractor shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bales shall be placed as work progresses, bales shall be removed/replaced/relocated as needed for work to progress in the drainage area). Final removal of straw bale barriers shall be upon approval by the Contracting Officer. Rows of bales of straw shall be provided as follows:

- a. Along the downhill perimeter edge of all areas disturbed.
- b. Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.
- c. Perpendicular to the flow in the bottom of drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced a maximum of 100 feet apart.
- d. At the entrance to culverts that receive runoff from disturbed areas.

1.4.2.3 Turbidity Curtains

Bottom-weighted turbidity curtains shall be deployed, upstream of the dam as indicated on the contract drawings.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Filter Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1

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FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

2.1.3 Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The Contractor shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric.

2.1.4 Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.2 COMPONENTS FOR STRAW BALES

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The Contractor may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have a minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

2.3 COMPONENTS FOR TURBIDITY CURTAINS

2.3.1 Boom Type Turbidity Curtain

The Contractor shall select, install, and maintain boom type turbidity curtains at the locations indicated and during the time periods as directed. The turbidity curtains shall be as manufactured by "Cormier Textile Products," Sanford, Maine or approved equal. The curtains shall include a floatation boom, a pervious geotextile fabric, tension cable, sufficient ballast to hold the fabric in place to withstand current velocities, and anchors and anchor lines.

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PART 3 EXECUTION

3.1 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the Contracting Officer.

3.2 INSTALLATION OF STRAW BALES

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.3 INSTALLATION OF BOOM TYPE TURBIDITY CURTAIN

Turbidity curtains shall be located as indicated on the drawings to protect non-work areas from siltation. The Contracting Officer will delineate the exact location of the curtains at the site prior to dredging operations. The turbidity curtains shall be deployed to effectively control turbidity, sediment and debris transport during all dredging operations. The curtains shall extend from the water surface to the pond bottom at all stages.

3.4 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.4.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and

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undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded in accordance with Section 02930 PLANTING.

3.4.2 Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each end of each row. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded in accordance with Section 02930 PLANTING.

3.4.3 Turbidity Curtain Maintenance

The Contractor shall inspect the curtains on a daily basis and remove accumulated sediments as needed. Remove the curtains when no longer required.

3.5 INSPECTIONS

3.5.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.5.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the this Section shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.5.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the measures, maintenance

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performed, and actions taken. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

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SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
E-mail: info@ansi.org
Internet: <http://www.ansi.org/>

--- ANSI documents beginning with the letter "S" can be ordered from:

Acoustical Society of America (ASA)
2 Huntington Quadrangle, Suite 1N01
Melville, NY 11747-4502
Ph: 516-576-2360
Fax: 516-576-2377
E-mail: asa@aip.org
Internet: <http://asa.aip.org>

ASME INTERNATIONAL (ASME)
Three Park Avenue
New York, NY 10016-5990
Ph: 212-591-7722
Fax: 212-591-7674
E-mail: infocentral@asme.org
Internet: <http://www.asme.org>

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park

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Quincy, MA 02169-7471
Ph: 617-770-3000
Fax: 617-770-0700
E-mail: webmaster@nfpa.org
Internet: <http://www.nfpa.org>

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or <http://www.hnd.usace.army.mil/techinfo/engpubs.htm>

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
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College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
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Internet: <http://www.gpoaccess.gov>

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SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

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

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.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all

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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.
- 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. 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.
- 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.

3.2.2 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 his CQC Plan and

RESTORATION OF MILFORD POND

operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 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 7 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. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. 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 promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records 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 construction person with a minimum of 3 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the

RESTORATION OF MILFORD POND

prime Contractor. The CQC System Manager shall be assigned as System Manager but may 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 experience requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at the US Army Corps of Engineers Office at 696 Virginia Road, Concord, Massachusetts.

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 portion 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. Review of provisions that have been made to provide required control inspection.
- d. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

RESTORATION OF MILFORD POND

- e. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- f. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- g. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- h. Discussion of the initial control phase.
- i. 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.
- 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 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

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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.

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 COMPLETION INSPECTION

3.7.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Contract Requirements, "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 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.

3.7.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the work is complete and ready to be accepted. 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 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.

3.7.3 Final Acceptance Inspection

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".

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3.8 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities have been performed. These records shall include the work of subcontractors 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. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- f. Offsite surveillance activities, including actions taken.
- g. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- h. Instructions given/received and conflicts in plans and/or specifications.
- i. 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 48 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.

3.9 SAMPLE FORM

The Contractor shall prepare and submit two (2) copies of the Daily Report of Operations, using ENG Form No. 4267, for each dredge. A sample form is attached at the end of Section 02325 DREDGING.

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3.10 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 --

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PART 3 EXECUTION (Not Used)

-- End of Section Table of Contents --

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

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

Site Plan; G, RO.

Sketch of the proposed location and dimensions of any area to be used by the Contractor for storage and staging, the number of trailers to be used, avenues of ingress/egress to the areas and details of improvements.

SD-02 Shop Drawings

Temporary Electrical System; G, RO.

Sketch of the proposed temporary electrical system.

1.2 SITE PLAN

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any storage and staging areas to be used by the Contractor, the number of trailers to be used, and avenues of ingress/egress to the areas. 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.

1.3 EMPLOYEE PARKING

Contractor employees shall park privately owned vehicles in an area approved by the Contracting Officer.

1.4 AVAILABILITY OF UTILITIES

Provide service required for construction operations. All water and electricity that may be required in the prosecution of the work shall be furnished by the Contractor at his own expense. There will be no Government furnished water and electricity at the project site.

1.5 SANITATION

Adequate sanitary conveniences of a type approved for the use of persons employed on the work shall be provided, properly secluded from public observation, and maintained by the Contractor in such a manner as required or approved by the Contracting Officer. These conveniences shall be

RESTORATION OF MILFORD POND

maintained at all times without nuisance. Upon completion of the work, the conveniences shall be removed by the Contractor from the premises, leaving the premises clean and free from nuisance.

1.6 TELEPHONE SERVICE

Provide telephone service to field offices. Provide and maintain a telephone or equal means of communication which will be in an easily accessible location at each of the large construction areas on the project. Such means of communication shall be accessible during all work hours.

1.7 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.

1.8 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

1.8.1 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.

1.8.2 Project and Safety Signs

The requirements for the sign shall be as shown on the drawings attached at the end of this section and as required by Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS. The sign shall be erected within 10 calendar days after commencement of work at the site. The Contracting Officer will determine the location for erection of the signs. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. Upon completion of the project, the sign shall be removed from the site.

1.9 CONTRACTOR'S TEMPORARY FACILITIES

1.9.1 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.

1.9.2 Storage and Staging Areas

Area is available for use by the Contractor, for work, storage of equipment, materials and trailers during the life of this contract. A site for Contractor storage and staging is shown on the drawings. The

RESTORATION OF MILFORD POND

Contractor shall confine his storage areas to the limits as designated or approved by the Contracting Officer and shall be responsible for the security of the areas. Upon completion of the contract, the Contractor shall remove all equipment and materials, except as otherwise specified, and restore the site to its original condition as approved by the Contracting Officer at no additional cost to the Government.

1.9.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site. The Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.9.4 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the military property.

1.9.5 Maintenance of Storage Area

Fencing, if used or required, shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion.

1.9.6 Security Provisions

Adequate outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment.

1.10 GOVERNMENT FIELD OFFICE

1.10.1 Resident Engineer's Office

The Contractor shall provide the Government Resident Engineer with an office, approximately 200 square feet in floor area, located where directed and providing space heat, electric light and power, and toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains. A portable toilet may be substituted for the water closet. Provide three telephone lines for telephone, fax, computer and a TCP/IP Network/Internet Connection. A mail slot in the door or a lockable mail box mounted on the surface of the door shall be provided. At completion of the project, the office shall remain the property of the Contractor and shall be removed from the site. Utilities shall be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer.

RESTORATION OF MILFORD POND

1.10.2 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer and providing as a minimum the facilities specified above. The trailer shall be securely anchored to the ground at all four corners to guard against movement during high winds.

1.11 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, locations as indicated on the contract drawings. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

1.12 CLEANING DURING CONSTRUCTION

1.12.1 Daily Cleaning

Execute daily cleaning to keep the work, the site, and adjacent properties free from accumulation of waste materials, rubbish, and windblown debris, resulting from construction operations.

1.12.2 On-Site Container

Provide on-site containers for the collection of waste materials, debris, and rubbish.

1.12.3 Removal of Waste

Remove waste materials, debris, and rubbish from the site periodically and dispose of off Government property in accordance with applicable laws and regulations.

1.12.4 Burning

No burning of brush or debris will be permitted at the site.

1.13 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.14 RESTORATION OF STORAGE AREA AND ACCESS AREAS

Upon completion of the project and after removal of trailers, materials, and equipment from within the storage area, the area shall be restored to

RESTORATION OF MILFORD POND

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.

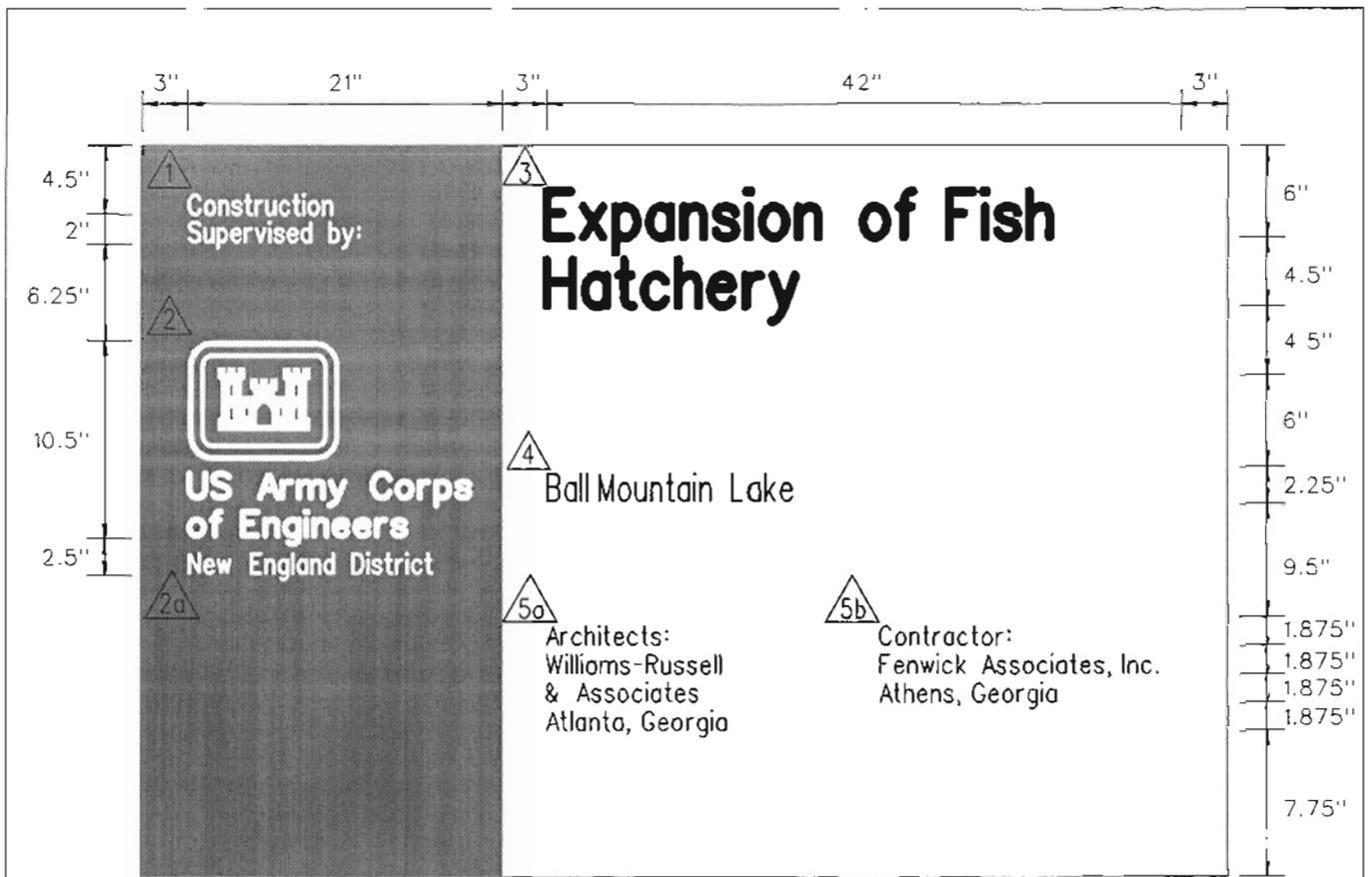
1.15 REMOVAL OF TEMPORARY MATERIALS AND EQUIPMENT

Remove temporary materials, equipment, services, and construction prior to completion of work. Clean and repair damage caused by installation or use of temporary facilities. Return site to pre-construction condition.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

-- End of Section --



**NOTES:
LEGEND
GROUP**

Shaded area to be
Communications Red

DESCRIPTION

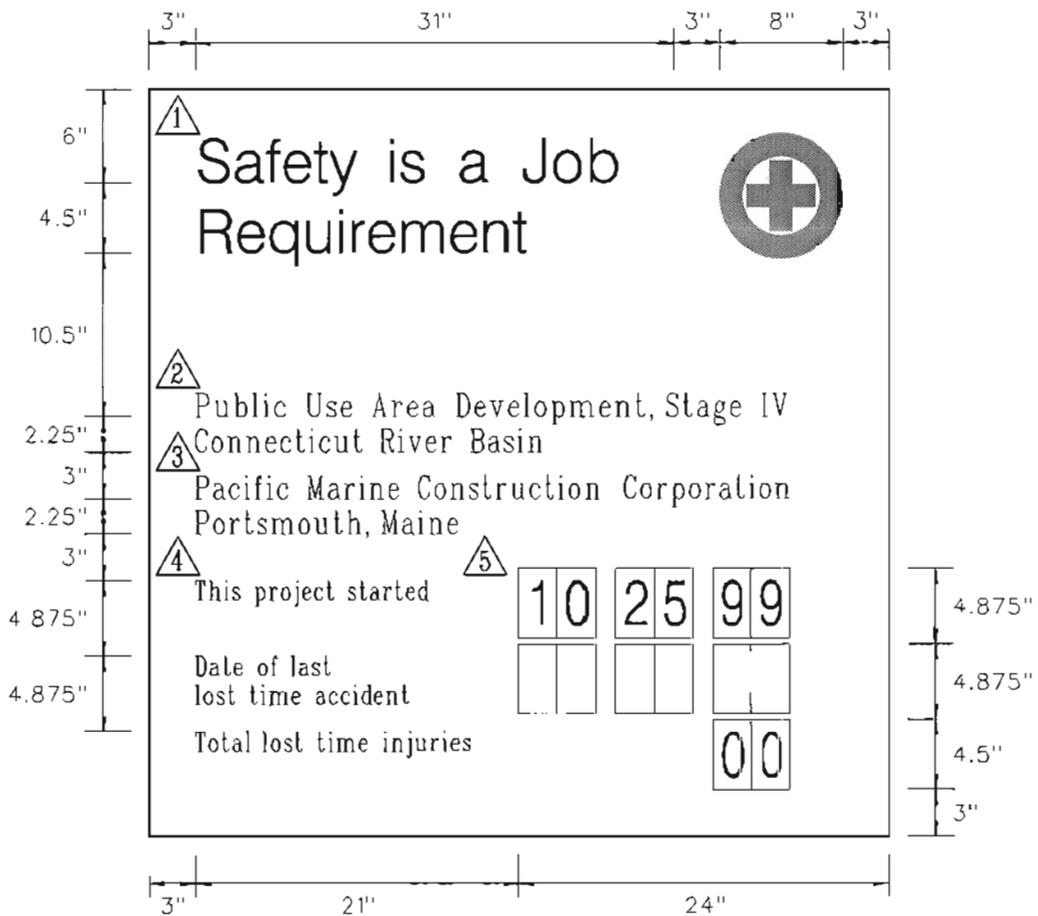
- 1 One-to two-line description of Corps relationship to project. Color: White, Typeface: 1.25" Helvetica Regular, Maximum line length: 19".
- 2 Division or District Name (optional). Placed below 10.5" reverse Signature (6" Castle). Color: White, Typeface: 1.25" Helvetica Regular.
- 2a One-to three-line identification of Military or Civil Works sponsor (optional). Place below Corps Signature to crossalign with Group 5a-b. Color: White, Typeface: 1.25" Helvetica Regular, Maximum line length: 19".
- 3 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".
- 4 One-to two-line identification of project or facility (civil works) or name of sponsoring department (military). Color: Black, Typeface: 1.5" Helvetica Regular, Maximum line length: 42".
- 5a One-to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.
- 5b Color: Black, Typeface: 1.25" Helvetica Regular, Maximum line length: 21".

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

STANDARD CONSTRUCTION DETAIL
PROJECT IDENTIFICATION SIGN
CIVIL WORKS PROJECT

1

1



**NOTES:
LEGEND
GROUP**

DESCRIPTION

- ① Standard two-line title: "Safety is a Job Requirement" with (8"OD.) Safety Green First Aid logo. Color: To match PMS 347, Typeface: 3" Helvetica Bold, Color: Black.
- ② One-to two-line project title legend describes the work being done under this contract and name of host project. Color: Black, Typeface: 1.5" Helvetica Regular, Maximum line length: 42".
- ③ One-two-line identification: name of prime contractor and city, state address. Color: Black, Typeface: 1.5" Helvetica Regular, Maximum line length: 42".
- ④ Standard safety record captions as shown. Color: Black, Typeface: 1.25" Helvetica Regular.
- ⑤ Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background. Color: Black, Typeface: 3" Helvetica Regular, Plate size: 2.5"x4.5".

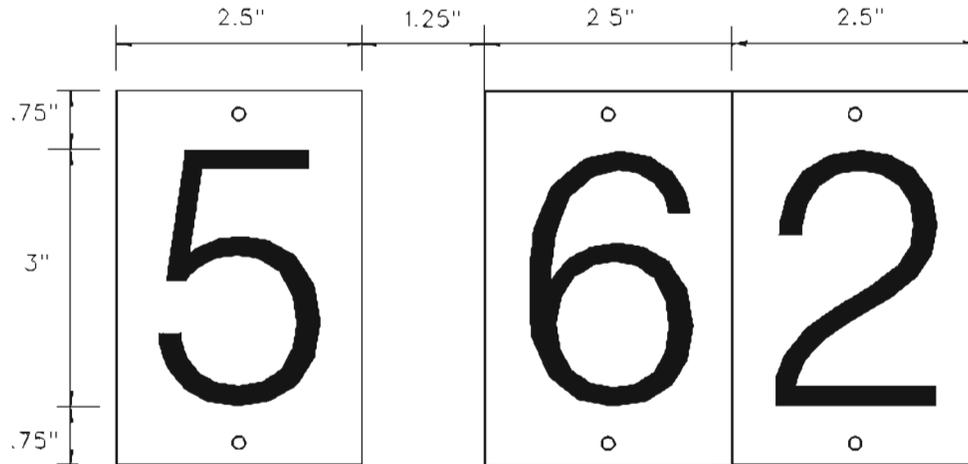
DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

STANDARD CONSTRUCTION DETAIL
SAFETY PERFORMANCE SIGN

DETAIL

1

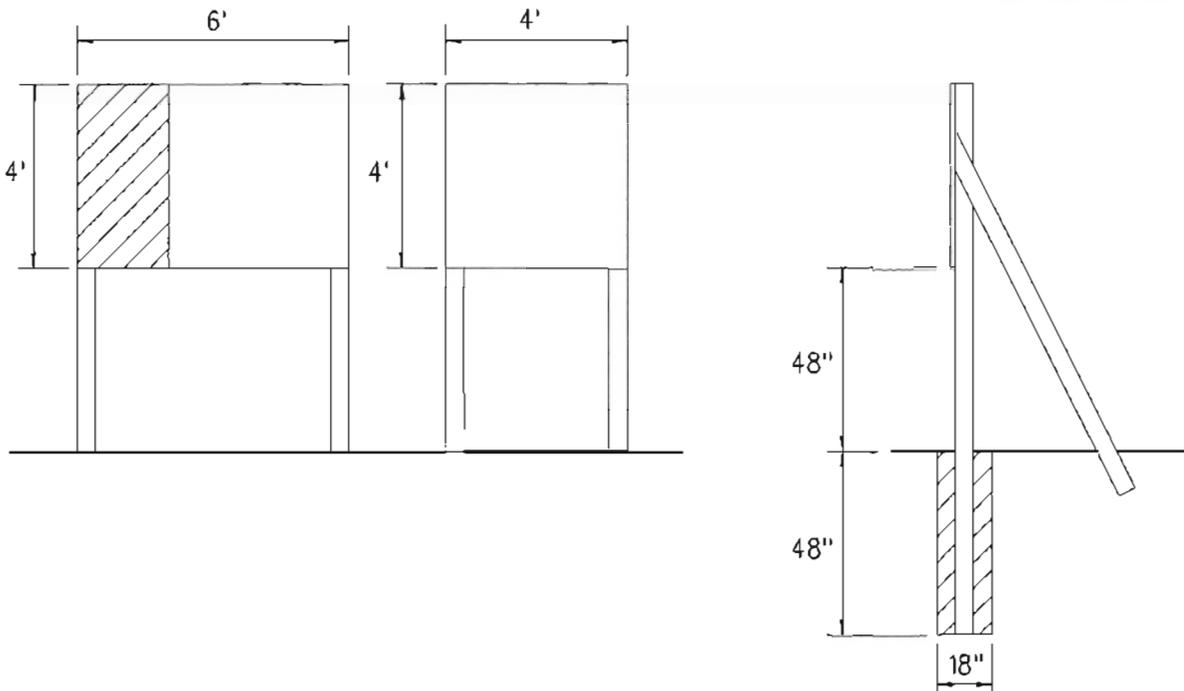
2



NOTES:

1. Replace numbers are to be mounted on white .01D aluminum plates and serew-mounted to background of Safety Performance Sign.

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	STANDARD CONSTRUCTION DETAIL INDIVIDUAL METAL PLATES DETAIL	2 2
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NOTES:

- 1 The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.
- 2 Sign graphics to be prepared on a white non-reflective vinyl film with positionable adhesive backing.
- 3 All graphics except for the Communications Red background with Corps signature on the project sign are to be die-cut or computer-cut non-reflective vinyl, pre-spaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16.2-3.
- 4 The 2'x4' Communications Red panel (to match PMS-032) with full Corps signature (reverse version) is to be screen printed on the white background. Identification of the district or division may be applied under the signature with white cut vinyl letters prepared to Corps standards. Large scale reproduction artwork for the signature is provided on page 4.8 (photographically enlarge from 6.875" to 10.5").
- 5 Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.
- 6 Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.
- 7 Sign uprights to be structural grade 4"x4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5") back of hole to accept socket head cap screw (4"x.375").
- 8 Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4' hole. Local soil conditions and/or wind loading may require bolting additional 2"x4" struts on inside face of uprights to reinforce installation as shown.

DEPARTMENT OF THE ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	STANDARD CONSTRUCTION DETAIL FABRICATION AND MOUNTING GUIDELINES MILITARY PROJECT	1 1
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RESTORATION OF MILFORD POND

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SECTION 01525

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SECTION 01525

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS FOR DREDGING

PART 1 GENERAL

1.1 RELATED SECTIONS

See Section 00800 SPECIAL CONTRACT REQUIREMENTS, Article "DREDGING SAFETY MANAGEMENT PROGRAM (DSMP)."

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- | | |
|------------------|--|
| ANSI A10.32 | Personal Fall Protection - Safety Requirements for Construction and Demolition Operations |
| ANSI Z359.1 | (1992; R 1999) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components |
| ANSI/ASSE A10.34 | (2001) Protection of the Public on or Adjacent to Construction Sites |

ASME INTERNATIONAL (ASME)

- | | |
|-------------|--|
| ASME B30.22 | (2000) Articulating Boom Cranes |
| ASME B30.5 | (2004) Mobile and Locomotive Cranes |
| ASME B30.8 | (2004) Floating Cranes and Floating Derricks |

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- | | |
|---------|------------------------------------|
| NFPA 10 | (2002) Portable Fire Extinguishers |
|---------|------------------------------------|

U.S. ARMY CORPS OF ENGINEERS (USACE)

- | | |
|------------|---|
| EM 385-1-1 | (2003) Safety -- Safety and Health Requirements |
|------------|---|

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

- | | |
|-----------------|--|
| 29 CFR 1926 | Safety and Health Regulations for Construction |
| 29 CFR 1926.500 | Fall Protection |
| 33 CFR 62.31 | Special Marks |

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33 CFR 62.35	Mooring Buoys
33 CFR 84.11	Shapes and Lights
33 CFR 84.13	Color Specification of Lights
33 CFR 88.13	Lights on Moored Barges
33 CFR 88.15	Lights on Dredge Pipelines
33 CFR 156.118	Advance Notice of Transfer
33 CFR 164-01(b)	Applicability
33 CFR 164-72	Navigation Safety Requirements, Charts or Maps, and Publications Required on Towing Vessels
33 CFR 173.21	Certificate of Number Required
46 CFR 4.03-2	Serious Marine Incident
46 CFR 4.05-1	Notice of Marine Casualty
46 CFR 4.06	Mandatory Chemical Testing Following Serious Marine Incidents Involving Vessels in Commercial Service
46 CFR 15.910	Uninspected Towing Vessels
46 CFR 15.815	Radar Observers

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:

Government acceptance is required for submittals with a "G, A" designation.

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, A

Activity Hazard Analysis (AHA); G, A

Crane Critical Lift Plan; G, A

Proof of qualification for Crane Operators; G, A

Proof of qualifications for site safety and health officer; G, A

Safe access plan (to and from all floating plant and docks); G, A

SD-06 Test Reports

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Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports

Crane Reports

Regulatory Citations and Violations

1.4 DEFINITIONS

a. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.

b. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

c. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

(1) Death, regardless of the time between the injury and death, or the length of the illness;

(2) Days away from work (any time lost after day of injury/illness onset);

(3) Restricted work;

(4) Transfer to another job;

(5) Medical treatment beyond first aid;

(6) Loss of consciousness; or

(7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

d. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and/or collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this

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contract, work performed shall comply with USACE EM 385-1-1, and federal, state, and local regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor. The Contractor Quality Control (QC) person can be the SSHO on this project. The SSHO shall meet the following requirements:

Level 2-D:

Minimum requirements include the following: 10 years safety work of a progressive nature with at least 5 years of experience on similar projects and completion of the 30-hour OSHA construction safety class or equivalent within the last 5 years; an average of at least 24 hours of formal safety training each year for the past 5 years with training for competent person status for at least the following areas of competency: fall protection; hazardous energy; confined space; personal protective equipment and clothing to include selection, use and maintenance; other as required for the project.

Submit proof of qualifications for site safety and health officer to the Contracting Officer.

1.6.1.2 Crane Operators

Crane operators shall meet the requirements in USACE EM 385-1-1, Section 16 and Appendix G. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, crane operators shall be designated as qualified by a source that qualifies crane operators (i.e., union, a government agency, or an organization that tests and qualifies crane operators). Proof of current qualification shall be provided.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)/Superintendent

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors' daily quality control report.

b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors.

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- c. Maintain applicable safety reference material on the job site.
- d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- e. Implement and enforce accepted APPS and AHAs.
- f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.
- g. Ensure sub-contractor compliance with safety and health requirements.

Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.
- c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.

1.7 ACCIDENT PREVENTION PLAN (APP)

The Contractor shall use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan". Specific requirements for some of the APP elements are described below. The APP shall be job-specific and shall address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific. The

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Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and any designated CSP and/or CIH.

Submit the APP to the Contracting Officer 10 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.

Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSO and quality control manager. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, all necessary action shall be taken to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ANSI/ASSE A10.34,) and the environment.

Copies of the accepted plan will be maintained at the resident engineer's office and at the job site. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.

1.7.1 EM 385-1-1 Contents

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required:

Crane Critical Lift Plan. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall be submitted 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.C.18. and the following:

- (1) For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.550(g).
- (2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's

requirements.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1. Submit the AHA for review at least 10 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

The activity hazard analyses shall be developed using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.9 DISPLAY OF SAFETY INFORMATION

Contracts with staging areas shall erect a safety bulletin board within 5 calendar days after commencement of work. Contracts that do not require staging areas shall have a safety bulletin board located aboard the dredge in the galley or other area where crewmembers gather. The safety bulletin board shall include information and be maintained as required by EM 385-1-1, Section 01.A.06.:

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.12 REPORTS

1.12.1 Accident Reports

a. For recordable injuries and illnesses, and property damage accidents resulting in at least \$2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the USACE Accident Report Form 3394 and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. For any weight handling equipment accident (including rigging gear accidents) the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Crane operations shall not proceed until cause is determined and corrective

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actions have been implemented to the satisfaction of the contracting officer. The Contracting Officer will provide a blank copy of the accident report form.

1.12.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident. Information shall include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.12.3 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix H and as specified herein with Daily Reports of Inspections.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 DREDGING AND/OR OTHER WORK

The Contractor shall comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, Federal OSHA regulations, ANSI Standards, USCG Regulations and other related submittals and fire and safety regulations, and any special activity reg The most stringent standard shall prevail.

3.1.1 U.S. Coast Guard Requirements - Dredging Operations

a. The Contractor shall display signal lights and dayshapes and conduct operations in accordance with the General Regulations of the Department of the Army and the US Coast Guard governing lights and dayshapes to be displayed on all vessels, plant, pipeline and associated equipment. This includes vessels, plant, pipeline and associated equipment moored or anchored in a fairway or channel and the passing by other vessels of floating plant working navigable channels. The following specific maritime regulations shall be adhered to during the execution of this contract.

- (1) Lights on dredge pipelines (33 CFR 88.15)
- (2) Lights on barges at a bank or dock (33 CFR 88.13)
- (3) Shapes and Lights (33 CFR 84.11 and 33 CFR 84.13)
- (4) Mooring Buoys (33 CFR 62.35)
- (5) Special Marks (33 CFR 62.31)
- (6) Uninspected Towing Vessel's (UTV) Licensing Requirements (

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46 CFR 15.910 and 46 CFR 15.815)

- (7) UTV Drug Testing Requirement (46 CFR 4.06 and 46 CFR 4.03-2)
- (8) UTV Marine Radar Requirement (33 CFR 164-01(b) and 33 CFR 164-72)
- (9) UTV Certificate of Documentation (33 CFR 173.21)
- (10) UTV Marine Casualty Reporting Criteria (46 CFR 4.05-1)
- (11) Dredge or UTV Advance Notice of Transfers (33 CFR 156.118)

(b) Prior to commencement of work, the Contractor shall participate in the U.S. Coast Guard's Uninspected Towing Vessels *UTV) Voluntary Commercial Dockside Examination program. The examination shall be coordinated with the Contracting Officer's Representative to allow Corps of Engineers participation. All deficiencies noted shall be corrected within seven (7) days of the examination.

(c) All boat operations shall follow the latest edition of the USCG Navigation Rules, International - Inland.

3.1.2 Safe Access

(a) Safe access to and from the dredge and all associated floating plant shall be in strict accordance with the requirements of paragraph 19.B of EM 385-1-1. Prior to commencement of work the Contractor shall submit for approval a safe access. The plan will outline how access, including emergency access, compliant with 19.B will be provided. The safe access plan (to and from all floating plant and docks) shall be submitted prior to the preconstruction conference. Illumination shall be provided in accordance with Section 7 of EM 385-1-1.

(b) At locations where floating plant may be moored at docks/wharfs designed for seagoing vessels, gangways or ramps shall be provided. The gangways or ramps shall be capable of accommodating the complete tidal range including surge. Gangways and ramps shall be installed in accordance with paragraph 19.B.01.d of EM 385-1-1, and shall be provided with guardrails in accordance with paragraph 21.B.02 of EM 385-1-1.

(c) In addition to the above requirements, access to hopper dredges for all visitors shall occur when the dredge is loaded or otherwise pumped down.

3.1.3 Safe Harbor

Plant utilized on the project shall be able to navigate waters adjacent to the project without significant modification to seek refuge from severe weather in protected waters.

3.2 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

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3.2.1 Training

The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards. A competent person for fall protection shall provide the training. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.A.16.

3.2.2 Fall Protection Equipment and Systems

The Contractor shall enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Employees shall be protected from fall hazards as specified in EM 385-1-1, section 21. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, paragraphs 05.H. and 05.I. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M, USACE EM 385-1-1 and ANSI A10.32.

3.2.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m (6 feet). The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.2.3 Horizontal Lifelines

Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

3.2.4 Rescue and Evacuation Procedures

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. A Rescue and Evacuation Plan shall be prepared by the contractor and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical

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assistance; and transportation routes to a medical facility. The Rescue and Evacuation Plan shall be included in the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

3.3 EQUIPMENT

3.3.1 Weight Handling Equipment

a. Cranes and derricks shall be equipped as specified in EM 385-1-1, section 16.

b. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.

d. The Contractor shall comply with ASME B30.5 for mobile cranes, ASME B30.22 for articulating boom cranes, and ASME B30.8 for floating cranes and floating derricks.

c. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.

d. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.

e. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.

f. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.

g. All employees shall be kept clear of loads about to be lifted and of suspended loads.

h. The Contractor shall use cribbing when performing lifts on outriggers.

i. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

j. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.

k. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.

l. Written reports listing the load test procedures used along with

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any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.

m. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

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DREDGING PLANT AND EQUIPMENT

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 385-1-1 (2003) Safety and Health Requirements Manual

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 and Equipment

Submit a schedule of the plant and equipment the Contractor will employ in the performance of the work of this contract. Submit also copies of all applicable inspections and certifications for all floating plant and equipment.

1.3 PLANT AND EQUIPMENT

1.3.1 Sufficient Capacity

The Contractor shall keep on the job sufficient Plant and Equipment to meet the requirements of the work. The plant and equipment shall be in satisfactory operating condition and be capable of safely and efficiently performing the work. The plant and equipment shall be subject to inspection by the Contracting Officer and/or his representatives at all times.

1.3.2 Minimum Capacity

The plant and equipment listed on the Plant and Equipment Schedule submitted with the Contractor's bid is the minimum which the Contractor shall place and keep on the job unless otherwise determined by the Contracting Officer. The listing of plant and equipment is not to be construed as an agreement on the part of the Government that the equipment is adequate to perform the required work.

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1.3.3 Reduction in Capacity

No reduction in the capacity of the plant and equipment employed on the work shall be made except by written permission of the Contracting Officer. The measure of the capacity of the plant and equipment shall be its actual performance on the work covered by this contract.

1.3.4 Inspections and Certifications

Prior to commencement of work at the site, the Contractor shall make available to the Contracting Officer Representative for review, copies of all applicable inspections and certifications of floating plant and equipment as required by Federal, State and local laws and regulations. See also EM 385-1-1, Sections 16, 19, and 20. Such inspections and certifications shall be current and maintained in force for the duration of this contract. Each item of floating plant and equipment shall have on board a waste oil management plan which details the intended disposal method for waste oil.

PART 2 PRODUCTS (Not Used)

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SECTION 01723

FIELD ENGINEERING FOR DREDGING

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Engineering Services

The Contractor shall furnish the required personnel, equipment, instruments, and transportation, as necessary to accomplish all required surveys. Reports and other data together with supporting material developed during the prosecution of the work shall be furnished to the Contracting Officer. The Contractor shall also provide adequate professional supervision and quality control to assure the accuracy, quality, completeness, and progress of the work.

The Contractor shall provide and pay for the following field engineering services for the project:

- a. Hydrographic and other survey work specified or required in execution of this project, except for surveys performed by the Government, as indicated in these specifications.
- b. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.

1.2 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referenced in the text by basic designation only. The Army Corps of Engineers references below may be viewed or downloaded free of charge via the Internet (<http://www.hnd.usace.army.mil/techinfo/>).

U.S. ARMY CORPS OF ENGINEERS

- EM 1110-1-1002 (1996) SURVEY MARKERS AND MONUMENTATIONS
- EM 1110-2-1003 (2002) HYDROGRAPHIC SURVEYING

1.3 DEFINITIONS

1.3.1 Survey Datum

The contract drawings refer to a horizontal datum at Massachusetts Mainland State Plane NAD 83 (feet) and a vertical datum at NAVD 88 (feet). The Contractor shall calibrate GPS equipment to the Corps of Engineers existing horizontal control net indicated on the drawings.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation;

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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

Survey Plans; G, RO.

The Contractor shall submit, as part of the Quality Control Plan, a detailed plan describing the survey methods to be used during the work. The plan shall include the equipment to be utilized, general site plan map, line designation map, calibration procedures to be used, expected horizontal and vertical accuracies, and pertinent information to describe the methods, and results to be obtained. Field surveys shall not begin until these plans are approved.

Layout Plan; G, RO.

A complete plan of the dredging areas showing the horizontal layout of all physical and electronic ranges to be used for horizontal control. The drawings shall be drawn at a scale sufficiently large to show all pertinent details. The drawings shall be submitted as blue or black lines on a white background.

Survey Personnel.

Furnish a listing of the personnel who will perform the survey work required by this contract. The listing shall include a brief summary of the hydrographic survey experience of each person. The list shall be submitted prior to the preconstruction conference.

SD-05 Design Data

Field Survey Data.

Submit field data; depth sounder rolls and corresponding boat plots; daily logs; and quantity computations. Submit data sufficient for the Government to reproduce the Contractor's survey plot by referring only to this field data.

1.5 GENERAL HYDROGRAPHIC SURVEY REQUIREMENTS

All hydrographic surveys for this project shall follow the mandatory criteria given in EM 1110-2-1003 for the ["Navigation and Dredging Support Surveys"] class of survey as a minimum.

[Survey lines may be run either perpendicular to the channel limits at 50 foot offsets or longitudinal at 25 foot offsets. The lines shall clearly identify the toe and extend out to a minimum of three times the project depth to accurately depict the side slope.]

1.6 HORIZONTAL POSITIONING PROCEDURES AND ACCURACIES

a. Vessel positioning systems utilized on this contract shall conform to the allowable horizontal positioning criteria in EM 1110-2-1003. The positioning system used shall be capable of meeting or exceeding the accuracy requirements and shall not exceed the allowable ranges where indicated. The Contractor may be required to demonstrate to the Government

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that its positioning system is capable of meeting or exceeding the accuracy requirements in EM 1110-2-1003.

b. All dredges, all survey vessels, and all towing equipment engaged in transport of dredged material, shall be equipped with automated electronic positioning and progress track-plotting equipment having a degree of accuracy commensurate with EM 1110-2-1003. In addition, dredges shall have production recording and efficiency optimizing data collection equipment; capable of storing, plotting, and printing in-situ operational data.

1.7 REFERENCE HORIZONTAL CONTROL DATA

At the preconstruction conference, the Contracting Officer will provide project control from which hydrographic surveys may be extended. This control shall be presumed to meet the accuracy requirements in EM 1110-2-1003. The Contractor shall immediately notify the Contracting Officer if existing control points have been disturbed. In the event new station monumentation is required to perform the work, new stations shall be monumenteted in accordance with EM 1110-1-1002 criteria, and an equitable adjustment will be made to the contract.

1.8 DEPTH MEASUREMENT PROCEDURES AND CALIBRATION

1.8.1 Depth Measurement Precision and Accuracy

Depth measurements including depth observation precision and resolution shall meet the vertical accuracy standards prescribed in EM 1110-2-1003.

1.9 VERTICAL REFERENCE DATUMS

Depth measurements shall be reduced to the specified datum as described in EM 1110-2-1003.

1.10 FIELD DATA RECORDING, REDUCTIONS, ARCHIVING, AND PLOTTING REQUIREMENTS.

The data format fields for submitting reduced hydrographic data to the District is x y z. The topographic and feature data shall conform to the intergraph general 3D design file formats specified in the reference. Digital data shall be contained on a 3.5 inch floppy disk or CD-ROM.

1.11 VOLUME COMPUTATIONS

The Contractor shall have the capability to compute excavation quantities from work performed under this contract. The Contracting Officer will furnish construction templates and limits from which volumes are to be computed using any of the techniques given in EM 1110-2-1003. Section drawings shall be made at the horizontal and vertical scales given in EM 1110-2-1003.

1.12 MISCELLANEOUS QUALITY CONTROL PROCEDURES

1.12.1 Automated System Synchronization Checks

Each automated hydrographic survey system shall be checked to insure adequacy of correlation between position and depth. Methods for performing this check are given in EM 1110-2-1003.

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PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CONTRACTOR SURVEYS

3.1.1 Survey Personnel

The Contractor survey work to be performed under this contract shall be accomplished by, or reviewed and approved by a surveyor familiar with and having personal experience with hydrographic surveys. In addition, the survey personnel shall also be familiar with and have personal experience with hydrographic surveys.

3.1.2 Contractor Quality Control Surveys

The Contractor shall examine his work by conducting hydrographic surveys at no more than 30-day intervals, upon completion of separable portions of the work, and upon completion of the entire work. Contractor quality control surveys shall also be performed and submitted to the Contracting Officer prior to any request for a Government survey for final acceptance. The Contractor shall prepare survey maps based on the results of these surveys.

These maps shall be used, by the Contractor, to satisfy himself of the effectiveness of his operations. Attainment of contract depth shall be verified, and a comparison of actual progress and in-place quantities dredged with scheduled progress shall be performed. Contractor surveys will not be used for final payment or acceptance. See Section 02325 DREDGING for additional Contractor survey requirements.

3.1.3 Contractor Progress Payment Surveys

The Contractor shall conduct surveys for any periods for which progress payments are requested. The Contractor will make the computations based on these surveys. All surveys accomplished by the Contractor shall be conducted under the direction of the Contracting Officer, unless the Contracting Officer waives this requirement for each specific instance. Promptly upon completing a survey, the Contractor shall furnish the all data relating to the survey to the Contracting Officer, who will use the data as necessary to determine the amount of progress payments.

3.2 GOVERNMENT SURVEYS

3.2.1 Government Quantity Surveys

The Contracting Officer will conduct the original and final surveys for all dredging areas and make all quantity computations based on those surveys. Surveys will be performed using either single beam or multibeam technology.

For survey method and equipment utilized see the "General Notes" section of the contract drawings. The surveys will be performed at no expense to the Contractor, except as noted in paragraph "Final Examination and Acceptance" below and as specified in Section 02325 DREDGING. The Contractor shall give a minimum of 3 days notice before completion of a portion of the work requiring a post-dredge survey. A minimum of 2 days will be required by the Government for completion of each of the post-dredge surveys at the site and another 10 to 15 days for calculation of quantities removed and verification of completion of work.

All quantity estimates for dredged material removed will be determined using either single beam or multi-beam survey technology. If single beam

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technology is used, all edited sounding information obtained from Government pre and post dredge surveys will be used in determining the payable quantity of dredged material removed. If multi-beam survey technology is used, then a 3-foot by 3-foot matrix using the average sounding will be generated from the edited multi-beam data and used in determining the payable quantity of dredged material removed. A Digital Terrain Model (DTM) will be created from each of the pre and post dredge surveys. A channel design template will be created at the required dredging depth and at the total allowable overdepth. Each of the channel design templates will be compared with the pre dredge DTM to determine the available quantity of required dredge material and available quantity of overdepth material. The same channel design templates will be compared to the post dredge DTM to determine the quantity of material remaining above the required dredging depth and the quantity of material remaining above the total allowable overdepth. The quantity of required dredged material removed will be derived from these comparisons. If the "box-cutting method of dredging is used to remove dredge material contained in side slopes where "box-cutting is permitted, the channel design templates will be modified to include a "box-cut" width. In all cases, the same channel design templates will be used to determine both the pre and post dredge quantities. Material removed below the total allowable overdepth will not be included in the payable quantity of material.

3.2.2 Final Examination by the Government

a. Submission of all Contractor quality control survey data, including plots, is required prior to performance of final examination and acceptance surveys by the Government.

b. As soon as practicable after completion of the entire work or any section thereof such work will be thoroughly examined at the expense of the Government by sounding or sweeping, or both, as determined by the Contracting Officer. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination the Contractor will be required to remove the shoals by dredging at the contract rate for dredging. If the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived at the discretion of the Contracting Officer. Dragging the bottom to remove lack of contract depth will not be permitted. The Contractor will be notified when soundings and/or sweepings are to be made, and may be permitted to accompany the survey party if approved by the Contracting Officer. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than one sounding or sweeping operation by the Government over an area be necessary by reason of work for removal of shoals disclosed by a prior sounding or sweeping, the cost of such second and any subsequent sounding or sweeping operations will be charged against the Contractor. The rate for each day in which the Government survey plant is engaged in such sounding or sweeping operations and/or is en route to or from the site, or is held, for the Contractor's convenience at or near the site for these operations, shall be \$4,560.00.

3.2.3 Final Acceptance by the Government

Final acceptance of the whole or any part of the work, and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error.

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SECTION 02231

CLEARING

PART 1 GENERAL

PART 2 PRODUCTS

2.1 TREE WOUND PAINT

Bituminous based paint of standard manufacture specially formulated for tree wounds.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Roads

Keep roads and walks free of dirt and debris at all times.

3.1.2 Trees, Shrubs, and Existing Facilities

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 CLEARING

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. 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.

3.3 DISPOSAL OF MATERIALS

All cleared materials on the project shall become the property of the Contractor, and shall be disposed of off site.

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DIVISION 02 - SITE CONSTRUCTION

SECTION 02325

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SECTION 02325

DREDGING AND MECHANICAL DEWATERING OF DREDGED MATERIAL

PART 1 GENERAL

1.1 DESCRIPTION

The Contractor shall provide all labor, materials, equipment and incidentals required to perform all aquatic plant harvesting, hydraulic dredging, dewatering, temporary diversions, pumping of water, erosion and sediment controls, restoration work, sediment testing, water testing and transportation of sediments to the disposal area required for the purpose of dredging Milford Pond to the depth and limits specified and to complete the work as shown, specified or required.

A. This section specifies the requirements for removal of all sediments by hydraulic dredging within Milford Pond to the depths and limits identified on the Contract Drawings and specified herein. This section also specifies the requirements for the aquatic harvesting of plant material prior to dredging, dewatering, stockpiling, transporting and disposing of the dredged materials.

B. The Contractor shall comply with all terms and conditions required by the Massachusetts Department of Environmental Protection (MassDEP) and the Easthampton Conservation Commission. A copy of each permit is attached to Section 01355 ENVIRONMENTAL PROTECTION.

C. The Contractor shall harvest aquatic plant material prior to dredging.

D. The Contractor shall use a floating hydraulic dredge to remove the sediments.

E. The Contractor shall provide all necessary sediment transfer and unloading facilities to interface onshore work with pond dredging.

F. Sediment removed from the pond shall be conveyed to trailer mounted portable belt filter presses, plate presses, centrifuges, or other approved dewatering facilities. The Contractor shall determine the appropriate quantities and types of additives/flocculants that may be required to achieve the required percent solids for disposal. The Contractor is responsible for his own testing and evaluation of the sediments.

G. The dredged material to be removed consists primarily of a fine-grained, highly organic silt, with approximately 10 percent total solids content. Test sample results and boring logs are presented in Section 7.3.3 "Littoral Processes and Sediment Chemistry" of the Environmental Assessment attached at the end of the specifications.

H. The Government makes no representations as to the sediments suitability to be recycled and/or reused for any purpose.

I. According to the U.S. Department of Agriculture (USDA) Classification System, sediment samples taken from Milford Pond are classified as silty loam to sandy loam.

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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

Work Plan; G, RO

The Contractor shall submit a work plan for accomplishing the dredging of this contract within 30 days of the Notice to Proceed and prior to the commencement of work. The following items shall be considered, as a minimum, for inclusion in the work plan.

- a. Proposed plant and equipment for harvesting aquatic plant material and dredging sediment materials.
- b. Proposed plant and equipment for dewatering the dredged materials. This shall include the details (including but not limited to sketches showing the layout of the plant and equipment, process flow diagramming, equipment and plant literature, production rates, limitations of the process systems, etc.) of the dewatering sequence, material handling, and proposed chemical amendments or additives. Include Material Safety Data Sheets (MSDS) for all proposed chemicals and/or additives and describe any special conditions on handling and storage requirements for these materials. The Contractor shall also identify if the proposed method of dewatering requires new permits, or revisions to existing permits. Such permits and revisions shall be the responsibility of the Contractor.
- c. Details of the proposed methods of material handling, transportation, and stockpiling (including, but not limited to, number and type of trucks, equipment, sketches depicting stockpile locations, transportation routes, and any site work needed to prepare the area, etc.).
- d. Proposed means and methods of removal of stumps, boulders, and debris, if encountered.
- e. Expected coordination requirements.
- f. Survey requirements.
- g. Proposed means and methods for maintaining pond water quality (e.g., turbidity curtains at outfall of dewatering plant) in compliance with the requirements of the permit. This shall include the methods and details of turbidity monitoring.
- h. Proposed measures to avoid overdredging.
- i. An operations schedule indicating the number of days to be worked per week, and an approximate schedule for a typical day including set-up, dredging and dewatering, and shutdown. All work conducted shall comply with any local laws/ordinances of the Town

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of Milford.

Testing Laboratories; G, RO

The Contractor shall submit the qualifications of the testing laboratory proposed for use to perform the testing required by this project.

SD-02 Shop Drawings

Layout of the Dewatering Unit; G, RO

The Contractor shall submit drawings showing the layout of the dewatering facility, including but not limited to: site office, dewatering unit, storage structures for solid and liquid effluent, pumps, piping, chemical amendment storage and dosing, and effluent discharge to pond.

SD-03 Product Data

Turbidity Curtains; G, RO

The Contractor shall submit manufacturer's literature, catalog cuts, and documentation indicating the curtains meet the requirements.

Aquatic Plant Harvesting Equipment; G, RO

The Contractor shall submit manufacturer's literature, catalog cuts, and documentation indicating that the equipment will meet the requirements of the specifications.

Dredging Equipment; G, RO

The Contractor shall submit manufacturer's literature, catalog cuts, and documentation indicating that the equipment will meet the requirements of the specifications.

Dewatering Unit; G, RO

The Contractor shall submit manufacturer's literature, catalog cuts, and documentation indicating that the dewatering unit will meet the requirements of the specifications.

Transportation Information

For each truck to be used for hauling, provide a copy of its current vehicle registration, proof of insurance, company name, truck number, make, model, year, and VIN, registered allowable gross weight, and registered tare weight.

Chemical Amendments/Additives; G, RO

If chemical amendments/additives are required, the Contractor shall submit manufacturer's literature, catalog cuts, MSDS, and documentation indicating the amendments/additives meet the requirements and will not adversely affect the environment. MassDEP must approve the use of chemical amendments/additives prior to use at the project. The Contractor shall be solely

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responsible for requesting such approval from MassDEP.

SD-05 Design Data

Dewatering Unit Design; G, DO

The Contractor shall submit the proposed design of the dewatering unit. The Contractor shall be responsible for the proper design and sizing of the dewatering unit. The unit shall be a belt filter press type and provide gravity thickening of excavated sediment to remove supernatant. The supernatant shall contain a maximum of 2 percent solids or a total suspended solids (TSS) level less than the Water Quality Certification requirements, whichever is more stringent. The unit shall screen sediment to remove materials greater than 2 inches in any direction and hydrocyclone(s) to remove sand materials at least greater than the Number 40 Sieve.

The unit shall be capable of processing the daily quantity of sediment equal to the Contractor's daily pond sediment excavation rate. The unit shall be capable of dewatering the excavated sediment to a minimum of 30 percent solids by weight. A chemical amendment/additive should be added to the dredge sediment, as necessary, to produce the required solids content. All chemicals used in dewatering shall be approved for use in potable water applications.

All discharge water and wash water from the dewatering process shall be returned to Milford Pond and meet the applicable water quality standards.

SD-06 Test Reports

Daily/Weekly/Monthly Report of Operations; G, RO

The Contractor shall prepare and submit two (2) copies of the Daily Report of Operations, using ENG Form No. 4267, for each dredge. This report shall be submitted on a daily basis. A copy of this form is appended to the end of Section 01451 CONTRACTOR QUALITY CONTROL.

The weekly report shall consist of transportation and disposal logs estimating the quantity of material dredged. The Contractor shall provide at a minimum the day, departure time, name of trucking company and driver, scale ticket number, weights (gross, tare, and net), percent solids, calculated dry tons, and estimated volume. Additionally, the Contractor shall provide original copies of the certified scale receipts.

In addition to the daily and weekly reports, the Contractor shall prepare a Monthly Report of Operations for each month or partial month's work on ENG Form No. 4267. The monthly report shall be submitted to the Contracting Officer on or before the 7th of each month, consolidating the previous month's work. Upon completion of the project, the Contractor shall submit a consolidated project report, combining the monthly reports.

One copy of the reports shall be maintained by the Contractor on the dredge(s) for the Contracting Officer's inspection purposes.

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Further instructions on the preparation of the reports will be furnished at the Preconstruction Conference.

Testing of Filter Cake Material; G, DO

The Contractor shall submit daily test results.

1.3 UTILITIES

The Contractor, at his expense, shall furnish all utilities required for the execution of the work.

1.4 NOTIFICATIONS

1.4.1 Notice of Need for Dredging Survey

The Contractor shall give advance notice to the Contracting Officer of the need for an after-dredging survey for final acceptance for each acceptance section. See Section 01723 FIELD ENGINEERING FOR DREDGING, Subpart GOVERNMENT SURVEYS.

1.5 MATERIAL TO BE REMOVED

1.5.1 Character of Materials to be Removed

a. Samples have been taken by the Government to determine the character of materials to be removed. Although the results of such explorations are representative of subsurface conditions at their respective locations, local minor variations in the subsurface materials are to be expected and, if encountered, will not be considered materially different within the purview of the contract. The Contractor is expected to examine the site of the work and decide the character of the material for himself.

b. Grain size information for the samples taken from the areas to be dredged, and a map of the locations where the samples were taken are attached at the end of the specifications.

1.6 WORK AREA

1.6.1 Access

The Contractor shall be responsible for providing and maintaining access (including but not limited to; dust control; limiting ponding water; truck tire wash, if required; sweeping public roadways, as required; etc.) necessary for his equipment and plant to and from the work site and disposal area. The Contractor shall ascertain the environmental conditions that can affect the access.

1.6.2 Artificial Obstructions

The Contractor may encounter bottom debris such as, but not limited to, tree logs and stumps, and boulders. The Government has no knowledge of artificial obstructions (cars, shopping carts, etc.) of such size or character as to require the use of alternative equipment for its removal. However, special or additional plant may be required for economical removal of some items, such as stumps and boulders. During dredging operations, the Contractor shall remove all debris encountered. Floating debris removed from the dredging area shall be separated and stockpiled for disposal. Disposal in accordance with local, Federal, and State laws and

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regulations shall be the responsibility of the Contractor. In case the actual conditions differ from those stated or shown, or both, an adjustment in contract price or time of completion, or both, will be made in accordance with "FAR 52.236-2, Differing Site Conditions".

1.6 QUANTITY OF MATERIAL

The total estimated amount of material to be removed from within the specified limits, including side slopes, is shown on the Bidding schedule. The estimated quantity of each bid item for bidding purposes and for application of the "FAR 52.212-11, Variation in Estimated Quantity" shall be the total quantity based on the pre-dredge survey and the pay limits, excluding any overdepth. The quantities listed are estimates only. Within the limits of available funds, complete the work specified whether the quantities involved are greater or less than those estimated.

1.7 EXCESSIVE DREDGING AND SIDE SLOPES

1.7.1 Excessive Dredging

Material taken from beyond the dredge limits as shown on the drawings will be deducted from the total amount dredged as excessive dredging, or excessive side-slope dredging for which payment will not be made.

1.7.2 Side Slopes

Material dredged to provide for final indicated side slopes will be measured and paid for at the applicable unit price. The material may be dredged from the original position or by dredging the space below the indicated slope plane at the bottom of the slope for upslope material capable of falling into the cut. Payment will not be made for material in excess of the amount originally lying above the pay slope plane.

1.8 INSPECTION

Inspect the work, keep records of work performed, and ensure that gages, targets, ranges, and other markers are in place and usable for the intended purpose. See Section 01451 CONTRACTOR QUALITY CONTROL.

1.8.1 Method of Communication

Provide a system of communication between the dredge crew, the dewatering plant, and the Contracting Officer. Portable two-way marine radios are acceptable.

1.8.2 Transportation

The Contractor shall furnish, at the request of the Government Representative the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the equipment or marine plant as may be reasonably necessary in inspecting and monitoring the work. The Contractor shall furnish, on the request of the Government Representative, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and the work site.

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PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 CONDUCT OF DREDGING WORK

3.1.1 Order of Work

The Contractor shall start and complete the work in the order of precedence as specified below or as agreed to by the Contracting Officer. The Government reserves the right to change the order of work at any time. The Contractor shall prepare and submit to the Contracting Officer for review and approval a progress schedule in accordance with Section 01110 SUMMARY OF WORK and as indicated in this section.

3.1.2 Mechanical Harvesting of Aquatic Plant Materials

The Contractor shall employ a mechanical harvesting machine to remove aquatic plant material from the pond prior to the commencement of dredging operations. The machine shall be designed to cut the plants at the bottom of the water column and remove the plants from the water by a conveyor belt system. Cut plants may be stored on the machine for transportation to the shore or a barge may be used for temporary plant storage. The shore station equipment shall be capable of removing the plant materials from the harvesting machine or barge and loading the plants into dump trucks for disposal at the disposal site. The plant material shall be segregated at the disposal site from the other dredged materials. The harvesting machine and all support vessels shall be thoroughly cleaned and inspected before allowing them to be launched onto the pond. Subsequent to the completion of harvesting, the harvesting machine and all support vessels shall be thoroughly cleaned and inspected before demobilizing from the project site.

3.1.3 Method of Dredging - Hydraulic

Dredging under this contract shall be performed using a hydraulic type of dredge. Hydraulically removed material shall be pumped to the dewatering area for processing in accordance with this section.

Pumping into the dewatering area shall be controlled and restricted to prevent overtopping of the dewatering equipment.

3.1.4 Dewatering Unit

Hydraulically excavated pond sediment shall be conveyed to the dewatering unit (e.g. belt filter presses, plate presses, centrifuges, or other approved dewatering facilities). The Contractor is responsible for determining the most appropriate method of dewatering, as well as, the quantity of equipment to be used. Effluent from the dewatering process shall be discharged back into the pond. However, suspended sediment in dewatering effluent shall be kept to a minimum as required. Turbidity curtains/silt curtains shall be used in the effluent discharge area to reduce remaining suspended solids from further entering the water body. The Contractor shall inspect the curtains on a daily basis. Once sediment begins to accumulate within the effluent silt curtain, the Contractor shall relocate the dredge to this area to remove the sediment. At a minimum, the area within the effluent silt curtain shall be cleaned at least once per month. Under no circumstances, shall the sediment be allowed to break through or overflow the effluent turbidity/silt curtain area.

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After dewatering, the dredged material shall be stockpiled within the eastern section of the disposal area, which is Town-owned land off Dilla Street as shown on the contract drawings. At the disposal area, the coarser materials removed from hydrocyclone shall be segregated from the materials removed from the belt press. Material removed from sediment during the screening process (i.e., material greater than 2 inches in size) and hydrocyclone process (coarse grained materials) within the dewatering unit shall be disposed in a separate area of the disposal site, as approved by the Contracting Officer.

The Contractor is responsible for maintaining roadways in a clean and acceptable condition as determined by the Contracting Officer.

3.1.5 Misplaced Material Disposal

Material that is deposited elsewhere than in locations designated or approved by the Contracting Officer will not be paid for and the Contractor shall be required to remove such misplaced material and deposit it where directed at his expense.

3.1.6 Ranges, Gages, and Lines

Furnish, set, and maintain ranges, buoys, and markers needed to define the work and to facilitate inspection. Establish and maintain gages in locations observable from each part of the work so that the depth may be determined. Suspend dredging when the gages or ranges cannot be seen or followed. The Contracting Officer will furnish, upon request by the Contractor, survey lines, points, and elevations necessary for the setting of ranges, gages, and buoys. Minimize interference to navigation.

3.1.7 Debris Management

Debris removed from the bottom during dredging operations, which is not suitable for disposal at the upland disposal site, shall be collected and removed from the site. Each day during dredging operations, the Contractor shall collect and remove floating debris resulting from project activities.

3.2 TESTING

The percent dry solids by weight shall be measured in representative filter cake samples daily in accordance with EPA Test Method 160.3. The test results shall be attached to the Contractor's Daily Contractor Quality Control Report submitted to the Contracting Officer.

3.3 FINAL CLEAN UP

Final clean up shall include the removal of all the Contractor's plant and equipment either for disposal or reuse and restoration of the area including loam and seeding. Plant, equipment, and materials to be disposed of shall only be disposed in a manner and at locations approved by the Contracting Officer. Unless otherwise approved by the Contracting Officer, the Contractor will not be permitted to abandon any equipment in the disposal area or other areas adjacent to the worksite.

Failure to promptly remove all plant, equipment, and materials upon completion of the dredging will be considered a delay in the completion of the final cleanup and demobilization work. In such case, the Government will exercise its right to remove any plant, equipment, and materials at the Contractor's expense.

RESTORATION OF MILFORD POND

-- End of Section --