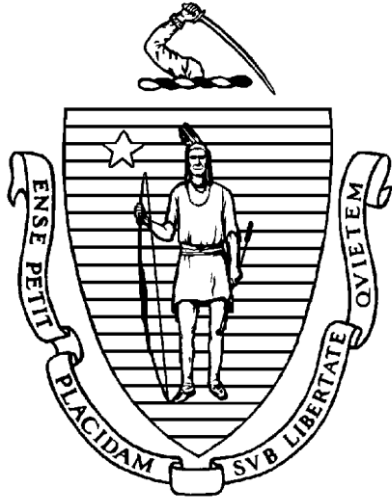




Department of Conservation and Recreation

PART I

INSTRUCTIONS TO BIDDERS

CONTRACTS FOR PUBLIC WORKS PROJECTS
AND
FOR BUILDING PROJECTS ESTIMATED TO
COST MORE THAN \$25,000 BUT NOT MORE THAN \$100,000
SUBJECT TO THE PROVISIONS OF M.G.L. CH. 30 SEC. 39M

NOTICE TO CONTRACTORS – M.G.L. C. 30, sec. 39M CONSTRUCTION
ADVERTISEMENT OF INVITATION FOR BIDS
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620, BOSTON, MA 02116
PHONE: 617-626-1250
www.mass.gov/dcr

Contract No. P27-3707-C1A
Title: Bellevue Pond Dam Rehabilitation
Location: Middlesex Fells Reservation, Medford, Massachusetts

GENERAL BID proposals shall be submitted on a form furnished by the Department and will be received by 12:00 PM on Thursday, October 29 through DCR's E-bid room at www.bidexpress.com/businesses/36765/home.

Individual sets of contract documents will only be available in DCR's E-bid room at www.bidexpress.com/businesses/36765/home.

If any addenda are issued throughout the open period for this project, DCR will distribute these addenda via Bid Express, which will also email identified prospective at the time plans and specifications are issued.

A pre-bidding conference for prospective bidders will be held on site (80 South Border Road, Medford MA) on Wednesday, Sept 30, 2026, at 12:00 pm. Questions must be received no later than 12:00 pm on Wednesday October 7th, 2026.to **Christopher.DeTurk@mass.gov** Responses to questions / addendums will be issued on Wednesday , October 14, 2026.

The project consists of repairs to the existing weir, stoplog bay, spillway structure, culvert pipe, headwalls, and training walls that have deteriorated over time. Repairs will restore its original function to maintain the pond elevation and control flow through the structure before exiting the culvert. Additionally, the walking path north of the dam has become degraded due to erosion from storm events. The proposed work will improve the path to mitigate future erosion, which will result in safe, level, and defined walking paths and will mitigate the potential for sediment to travel from eroding paths to the pond.

The estimated project cost is **\$230,515.00**

The work is to be accomplished within 365 calendar days of a notice to proceed. Liquidated damages in the amount of \$ 750.00 per day will be assessed if the work has not been completed in accordance with the provisions of the contract within the time specified (as extended by any authorized extension of time granted in accordance with the contract provisions).

Bidders must be pre-qualified by the Massachusetts Dept. of Transportation (MassDOT) Highway Division in Dam Construction to bid on the above project. An award will not be made to a Contractor who is not pre-qualified by MassDOT prior to the opening of Proposals.

The Proposed contract includes a requirement of **0% for MBE** (Minority Business Enterprise) **0% for WBE** (Women Business Enterprise) and **0% VOB** requirement (Veteran-Owned Business Enterprise).

The applicable local minority workforce utilization percentage is a minimum goal of 15.3%. The applicable local women workforce utilization percentage is a minimum goal of 6.9%.

Each bid must be accompanied by a bid deposit, in the form of a bid bond, cash, certified check, or a treasurer's or cashier's check issued by a responsible bank or trust company, payable to the Department of Conservation and Recreation in the amount of 5% of the bid.

Each bid must be submitted through DCR's E-Bid room at www.bidexpress.com/businesses/36765/home. Please ensure that your bid is complete and marked as responsive when submitting through DCR's Bid room. Any bids found to be incomplete and/or marked unresponsive will be rejected by DCR and will not be considered when awarding the project.

Bids are subject to the provisions of M.G.L. Ch. 30, Sect. 39F, G, H and M inclusive. Wages are subject to minimum wage rates as per M.G.L. Ch. 149, sections 26 to 27D inclusive. The Department reserves the right to waive any informalities in or to reject any and all bids if it be in the public interest to do so.

Commissioner, Nicole LaChapelle
Massachusetts Department of Conservation and Recreation



**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION**

**PART I
INSTRUCTIONS TO BIDDERS**

**CONTRACTS FOR PUBLIC WORKS PROJECTS
SUBJECT TO THE PROVISIONS OF M.G.L. C. 30. SEC. 39M**

Awarding Authority:

Department of Conservation and Recreation
10 Park Plaza, Suite 6620,
Boston, MA 02116
Telephone: 617-626-1250

DCR Contract No.: P27-3707-C1A

Title: Bellevue Pond Dam Rehabilitation

Project Scope: This project includes repairs to the existing weir, stoplog bay, spillway structure, culvert pipe, headwalls, and training walls that have deteriorated over time. Repairs will restore its original function to maintain the pond elevation and control flow through the structure before exiting the culvert. Additionally, the walking path north of the dam has become degraded due to erosion from storm events. The proposed work will improve the path to mitigate future erosion, which will result in safe, level, and defined walking paths and will mitigate the potential for sediment to travel from eroding paths to the pond.

Deadline for filing general bids is 12:00 P.M. on Thursday October 29, 2026.

The minimum wage rate and truck rate requirements for this Contract are located www.bidexpress.com/businesses/36765/home.

Bid forms for this Contract are located @ www.bidexpress.com/businesses/36765/home.

The Minority, Women & Veterans Business Enterprise participation for this Contract are to be found in the Notice to Contractors section (Part I - Page 2/3).

The time for completion of the Work is specified in Article 2 of the Department of Conservation and Recreation - Contractor Agreement. Liquidated damages for failure to be completed on time are as stated in Article 8 of the Department of Conservation and Recreation - Contractor Agreement.

As used herein, capitalized terms shall have the meaning assigned to them in the General Conditions of the Contract and the Department of Conservation and Recreation - Contractor Agreement unless the context clearly indicates otherwise.

SECTION 1 - BIDDER'S REPRESENTATION

1.1 Each bidder (hereinafter sometimes referred to as "Bidder") by making a bid (hereinafter sometimes referred to as "Bid") represents and warrants that Bidder has visited and examined the Site and the Contract Documents; that Bidder is familiar with the local conditions under which the Work is to be performed; that Bidder has correlated personal observations with the requirements of the Contract Documents; and that where the Contract Documents require, in any part of the Work, a given result to be produced, the Contract Documents are adequate and that Bidder will produce the required result within the Bid price and that the Bid is made in accordance therewith.

1.2 FAILURE TO EXAMINE THE CONTRACT DOCUMENTS AND THE SITE WILL NOT RELIEVE ANY BIDDER FROM ANY OBLIGATION UNDER THE BID AS SUBMITTED. NEITHER THE COMMONWEALTH NOR THE DESIGNER WILL BE RESPONSIBLE FOR ERRORS, OMISSIONS AND/OR CHARGES FOR EXTRA WORK ARISING FROM BIDDER'S FAILURE TO FAMILIARIZE ITSELF WITH THE CONTRACT DOCUMENTS OR EXISTING CONDITIONS.

1.3 Pre-Bidding Conference

- A. If applicable, a pre-bidding conference for prospective bidders will be held at the date, time and location as specified in the Notice to Contractors section (Part I – page 2/3).
- B. At the conference, the project will be discussed in general. It is desirable that all prospective bidders attend. The Contract, Specifications, Drawings, and any other aspects of this project will be explained in response to questions by those attending. For interpretations of questions requiring legal, administrative, or engineering decision, prospective bidders shall comply with Section 3 herein.

SECTION 2 - GENERAL BIDDERS - QUALIFICATION

2.1 Every Bidder must submit the following documents, as required:

Special certification may be required as required by the Department on a contract-specific basis.

Refer to the Notice to Contractors for the specific qualification requirements of this contract.

SECTION 3 - REQUESTS FOR INTERPRETATION

3.1 Interpretation

A. The Plans and Specifications and other Contract Documents are to be considered together and are intended to be mutually complementary, so that any work shown on the Plans though not specified in the Specifications, and any work specified in the Specifications though not shown on the Plans, is to be executed by the Contractor as a part of this Contract.

B. All things that in the opinion of the Awarding Authority may be reasonably inferred from the Plans, Specifications and other Contract Documents are to be executed by the Contractor. The Awarding Authority shall determine whether the detail Plans conform to the general Plans and Contract Documents.

C. The tables of contents, titles, headings and marginal notes or sub-scripts contained herein are solely to facilitate references, are not intended to be construed as provisions of the Contract, and in no way affect the interpretation of the provisions to which they refer.

D. Where reference is made in the Contract Documents to publications, standards, or codes issued by associations or societies, such reference shall be interpreted to mean the current edition of such publications, standards, or codes, including revisions in effect on the date of the Advertisement, notwithstanding any reference to a particular date. The foregoing sentence shall not apply to the dates, if any, specified with respect to insurance policy endorsement forms.

E. In case of any conflict among the Contract Documents, unless the context clearly otherwise requires, the Contract Documents shall be construed according to the following priorities:

- First Priority: Contract Modifications
- Second Priority: Department of Conservation and Recreation - Contractor Agreement
- Third Priority: General Conditions of the Contract
- Fourth Priority: Drawings - Schedules take precedence over enlarged detail Drawings and enlarged Detail Drawings take precedence over reduced scale Drawings; figured dimensions shall prevail over scale.
- Fifth Priority: Specifications

3.2 Any questions by prospective Bidders concerning interpretation of the Contract Documents must be submitted in writing to the Awarding Authority and should be in its possession at least five working days before the date set for the receipt of Bids. The Awarding Authority will post to Bid Express any addenda or written interpretations that

it deems necessary to Bidders who have taken out plans at the address given by them before the date set for the receipt of affected Bids. Bidders may not rely upon oral communications or interpretations from the Awarding Authority or the Designer, and the Awarding Authority shall not be bound by them.

Written Questions shall be submitted to:

Attn: Christopher DeTurk, Project Manager
Department of Conservation and Recreation
180 Beaman Street
West Boylston, MA 01583
Email: Christopher.DeTurk@mass.gov

3.3 It is the sole responsibility of the Bidder to ascertain the existence of any addenda issued by the Awarding Authority, all addendums are posted on Bid Express- www.bidexpress.com/businesses/36765/home. Copies of addenda will be made available for inspection at the locations listed in the Advertisement where the Contract Documents are on file.

3.4 Wherever in the Contract Documents reference is made to Massachusetts General Laws, it shall be construed to include all amendments thereto effective as of the date of the issuance of the invitation to bid on the proposed work.

SECTION 4 - PREPARATION OF BIDS; ALTERNATES

4.1 Bids shall be submitted through the DCR E-Bid room at www.bidexpress.com/businesses/36765/home?agency=true.

4.2 All Bids submitted thru Bid Express must be deemed responsive by Bid Express to be considered

4.3 Where so indicated on the Bid Form, sums shall be expressed in both words and numerals. Where there is a discrepancy between the Bid sum expressed in words and the Bid sum expressed in figures, the Bid sum expressed in words shall control unless the intention of the Bidder clearly is otherwise as determined by the Awarding Authority in its sole discretion.

4.4 Each Bidder shall acknowledge all required alternates in Section C on the Bid Express by entering the dollar amount of addition or subtraction necessitated by the alternate(s).

4.5 If an alternate includes work within the Bidder's scope of work and does not involve a change in the cost of the Bid, the Bidder shall so indicate by writing "No Change" or "N/C" or "0" in the space provided for that alternate.

4.6 The lowest Bidder will be determined based on the sum of the base Bid and the accepted alternates.

4.7 Each bid must be accompanied by a bid deposit, payable to the Department of Conservation and Recreation in the amount of 5% of the bid. Bid Bonds must be submitted electronically, please ensure your company and your bonding agent's company register with one of the Bid Bond agencies affiliated with Bid Express: If you need additional assistance, please call the Bid Express Customer Support Team at [888-352-2439](tel:888-352-2439), available Monday - Friday from 7:00am – 8:00pm (EST). You can also email the team at support@bidexpress.com

4.8 The amount of such bid deposit shall be **5% five per cent** of the value of the Bid.

SECTION 5 - SUBMISSION OF BIDS

5.1 Each bid, **including the bid deposit**, shall be submitted via DCR's Bid room at www.bidexpress.com/businesses/36765/home?agency=true

5.2 All Bids must be received by the Awarding Authority no later than the applicable date and time specified on page 1 of these Instructions to Bidders. Any Bid not received by the applicable deadline will not be accepted.

SECTION 6 - WITHDRAWAL OF BIDS; REJECTION OF BIDS

6.1 Any Bid may be withdrawn prior to the specified deadline for the receipt of Bids provided that the withdrawal shall be made by a written request signed by a person having the authority to bind the Bidder. The written request must be hand delivered or otherwise delivered to Robert Boncore, Director of Contracts and Procurement, at 10 Park Plaza, Suite 6620, Boston, MA 02116 or through email at Robert.Boncore@Mass.Gov, and must be received on or before the date and time appointed as the deadline for the receipt of Bids.

6.2 A Bidder may withdraw its Bid without penalty at any time up to the time of Award as defined below in subsection 9.1 only upon demonstrating to the satisfaction of the Awarding Authority that a death or disability has occurred, or a bona fide clerical error or mechanical error of a substantial nature was made during the preparation of the bid. Failure to demonstrate conclusively that a bona fide clerical error or mechanical error of a substantial nature was made may result in forfeiture of the Bid deposit

6.3 The Awarding Authority reserves the right to waive any informality in or to reject any and all Bids if it is in the public interest to do so. Without limiting the foregoing, the Awarding Authority reserves the right to reject unit prices which it deems unduly high or unduly low as unbalanced.

SECTION 7 – INSURANCE

7.1 Insurance Generally

A. The Contractor shall take out and maintain the insurance coverages listed in this Section with respect to the operations as well as the completed operations of this Contract. The insurance requirements stipulated shall cover all damage to property,

whether above or below ground, and shall apply to all the Work to be performed under this Contract. This insurance shall be provided at the Contractor's expense and shall be in full force and effect for the full term of the Contract or for such longer period as this Article requires.

B. All policies shall be written on an occurrence basis and be issued by companies authorized to write that type of insurance under the laws of the Commonwealth and rated in Best's Insurance Guide (or any successor thereto or replacement thereof) as having a general policy holder rating of "A" or better and a financial rating of at least "9" or otherwise acceptable to the DCR.

C. The Contractor shall submit two originals of each certificate of insurance, acceptable to the DCR, simultaneously with the execution of this Contract. Certificates shall include:

"Notwithstanding any policy terms or endorsements: DCR Contract Number /Project Name & *DCR is an additional insured as to all policies of insurance, with the exception of workmen's compensation. In addition, none of the above-referenced insurance coverages shall be cancelled, terminated, or materially modified in any way unless and until 10 (Ten) days advance written notice is given to the DCR. The contractor has paid all premiums.

The Contractor shall submit updated certificates prior to the expiration of any of the policies referenced in the certificates so that the DCR shall at all times possess certificates indicating current coverage. Certificates shall indicate contractual liability coverage, and the Contractor's Protective Liability coverage is in force. Certificates shall include specific acknowledgment that the coverage set forth in this Section 7 are included in the policies.

7.2 Types and Amounts of Insurance

Contractor's Commercial General Liability

Bodily Injury &	<u>500,000.00</u> each occurrence
Property Damage	<u>1,000,000.00</u> general aggregate, per project

This policy shall include coverage relating to explosion, collapse, and underground property damage if blasting operations constitute part of the Work to be performed under this Contract.

If the Contract work includes work to be performed within fifty feet of a railroad, any exclusion for liability assumed under contract for work within fifty feet of a railroad shall be deleted.

Vehicle Liability

The Contractor shall provide the following minimum coverage with respect to the operations of any employee, including coverage for owned, non-owned, and hired vehicles:

Combined Single Limit: 1,000,000.00

Worker's Compensation

The Contractor shall provide the following coverage in accordance with M.G.L. c. 149, sec. 34A and M.G.L. c. 152 as amended, unless a higher coverage is specified below:

Part One	Provide Statutory Minimum
Employer's Liability	\$500,000.00 each accident
Part Two	\$500,000.00 disease per employee
	\$500,000.00 disease policy aggregate

SECTION 8 – MBE, WBE AND VOB PARTICIPATION

8.1 The apparent low Bidder's compliance with the requirements of this Section 8 is a prerequisite for receiving the Award of the Contract. The MBE, WBE and VOB participation for this Contract are as set forth on the first page of these Instructions to Bidders

8.2. The Awarding Authority reserves the right to reduce or waive the MBE or WBE participation established for this Contract upon written request made by a Bidder. Requests to reduce or waive the MBE,WBE & VOB participation for this Contract should be received by the Awarding Authority no later than Ten (10) working days before the date set for the receipt of general Bids. **THE AWARDING AUTHORITY RESERVES THE RIGHT TO REJECT ANY REQUEST TO REDUCE OR WAIVE THE MBE,WBE & VOB REQUIREMENTS FOR THIS CONTRACT THAT IS RECEIVED AFTER THESE DEADLINES.** Such written request must demonstrate to the satisfaction of the Awarding Authority that it is not feasible for a non-MBE or non-WBE general Bidder to meet the percentage established for this Contract based upon any or all of the following: (i) actual MBE,WBE & VOB availability, (ii) the geographic location of the project to the extent related to MBE,WBE & VOB availability, (iii) the scope of the work, (iv) the percentage of work available for subcontracting to MBE,WBE & VOBs and/or (v) other relevant factors, including a **documented** inability by the prospective Bidder to obtain commitments from MBE,WBE & VOB subcontractors sufficient to meet the MBE,WBE & VOB requirements after having made a diligent, good faith effort to do so. All the foregoing documentation shall accompany the Bidder's request for a reduction or waiver of the MBE,WBE & VOB participation requirements. Such documentation shall include, at a minimum, the following:

-- A list of all items of work under the Contract that the Bidder made available for subcontracting to MBE,WBE & VOBs. The Bidder shall identify all items of work that the Bidder did not make so available and shall state the reasons for not making such work available for subcontracting to MBE,WBE & VOBs. The Bidder shall also

demonstrate that, where commercially reasonable, subcontracts were divided into units capable of being performed by MBE,WBE & VOBES.

-- Evidence that the Bidder sent written notices soliciting Bids or proposals to perform the items of work made available by the Bidder for subcontracting to all MBE,WBE & VOBES qualified to perform such work. The Bidder shall identify (if) each solicited, and (ii) each MBE,WBE & VOBES listed in the Massachusetts Supplier Diversity Office ("SDO" formerly "SOMWBA") directory under the applicable trade category that was not solicited and reasons, therefore. The Bidder shall also state the dates that notices were mailed and provide a copy of the written notice(s) sent.

-- Evidence that the Bidder made reasonable efforts to follow up the written notices sent to MBE,WBE & VOBES with telephone calls or personal visits to determine with certainty whether the MBE,WBE & VOBES were interested in performing the work. Phone logs or other documentation must be submitted.

-- A statement of the response received from each solicited person, including the reason for rejecting any MBE,WBE & VOBES who submitted a bid or proposal.

-- Evidence of efforts made to assist MBE,WBE & VOBES that needed assistance in obtaining bonding or insurance, or lines of credit with suppliers if the inability of MBE,WBE & VOBES to obtain bonding, insurance, or lines of credit is the reason given for the Bidder's inability to meet the requirements.

The Bidder may also submit any other information supporting its request for a waiver or reduction in the MBE,WBE & VOBES participation, including without limitation evidence that the Bidder placed advertisements in appropriate media and trade association publications announcing the Bidder's interest in obtaining bids or proposals from MBE,WBE & VOBES, and/or sent written notification to MBE,WBE & VOBES economic development assistance agencies, trade groups and other organizations notifying them of the Contract and the work to be subcontracted by the Bidder to MBE,WBE & VOBES. The Bidder shall also submit any other information requested by the Awarding Authority to show that the Bidder has taken all actions that could be expected to achieve the MBE,WBE & VOBES participation.

8.3 Any reduction or waiver of the MBE,WBE & VOBES participation for this Contract will be made by written addendum via Bid Express to all persons who have taken out plans for the project.

8.4 No later than five (5) working days after the opening of Bids, the apparent low Bidder shall submit the following documents to the Awarding Authority's Contract Officer listed in subsection 5.1: (i) a completed Schedule for Participation by

Minority/Women Business Enterprises ("Schedule for Participation") in the form provided by the Awarding Authority showing participation in amounts equal to or exceeding the MBE,WBE & VOB requirements for this Contract, (ii) a completed Letter of Intent in the form provided by the Awarding Authority for each MBE,WBE & VOB listed in the Schedule for Participation, and (iii) a current SDO certification letter for each MBE,WBE & VOB listed in the Schedule of MBE,WBE & VOB Participation showing that the MBE,WBE & VOB is certified in the area of work for which it is listed on the Letter of Intent.

8.5 Each Letter of Intent shall identify and describe the work to be performed by the named (the "MBE,WBE & VOB Work") with enough specificity to permit the Awarding Authority to identify the items of contract work that the MBE,WBE & VOB will perform for participation credit. The Awarding Authority reserves the right to reject any Letter of Intent if the price to be paid for the MBE,WBE & VOB Work does not bear a reasonable relationship to the value of such work under the Contract as determined by the Awarding Authority.

8.6 Within five (5) working days after receipt of the Schedule For MBE,WBE & VOB Participation, Letters of Intent, and SDO certification letters, the Awarding Authority shall review and either approve or disapprove the apparent low Bidder's submissions. If the apparent low Bidder has not submitted an appropriate Schedule For MBE,WBE & VOB and appropriate Letters of Intent and SDO certification letters establishing that the MBE,WBE & VOB participation for the project will be met, the apparent low Bidder may be considered ineligible for Award of the Contract and the Awarding Authority will Award the Contract to the second lowest Bidder, subject to said Bidder's compliance with these conditions.

8.7 The Contractor is required to submit to the Awarding Authority signed subcontracts with all subcontractors prior to the commencement of work to be performed under these contracts, and/or a purchase order or invoice from each material supplier and/or manufacturer listed on the Schedule For MBE,WBE & VOB Participation of the issuance of the Notice to Proceed by the Awarding Authority.

SECTION 9 - CONTRACT AWARD

9.1 "Award" means the determination, selection, and notification of the lowest, responsible, and eligible Bidder by the Awarding Authority.

9.2 The Contract will be awarded to the lowest responsible and eligible Bidder as determined by the Awarding Authority. Bidders will be required to hold firm their respective bids for thirty (30) days, Saturdays, Sundays, and legal holidays excluded, after the opening of the Bids.

9.3 As used herein, the term "lowest responsible and eligible Bidder" shall mean the Bidder whose Bid is the lowest of those Bidders who, in the Awarding Authority's opinion, are ready, willing and able to comply with all requirements of the Contract Documents and demonstrably possess the skill, ability, and integrity necessary for the faithful performance of the Work, based on the determination of past performance and financial soundness under M.G.L. c. 30, sec. 39M, (ii) the rules, regulations, orders,

guidelines and policies promulgated from time to time by the Commissioner of the Department of Conservation and Recreation and (iii) any other relevant criteria that the Awarding Authority may prescribe.

9.4 The Bid price shall be the price set forth in paragraph C of the Bid Form.

9.5 Should the Contract Documents require submission of special data to accompany the Bid, the Awarding Authority reserves the right to rule the Bidder's failure to submit such data an informality and to receive said data subsequently within a reasonable time as set by the Awarding Authority, provided that no such ruling shall result in an unfair advantage to the Bidder.

9.6 Should the Contract Documents require submission of special data to accompany the Bid, the Awarding Authority reserves the right to rule the Bidder's failure to submit such data an informality and to receive said data subsequently within a reasonable time as set by the Awarding Authority, provided that no such ruling shall result in an unfair advantage to the Bidder. **In addition**, the Department reserves the right to waive minor defects in documents or time limits

SECTION 10 - EXECUTION OF CONTRACTS

10.1 Upon receipt of the Award, the Bidder awarded the Contract shall submit two (2) properly executed originals of each of the following documents prior to execution of the Contract by the Awarding Authority. All such documents shall be in the form prescribed by the Awarding Authority and received within five working days from receipt of the Award.

- Department of Conservation and Recreation-Contractor Agreement
- Certificate of Corporate Vote
- Joint Venture Authorization (if appropriate)
- Performance and Payment Bonds with power of attorney
- Certificates of Insurance evidencing coverages in amounts required by the Contract Documents.
- Any other documents that the Awarding Authority may require in connection with the Contractor's execution of the Contract.

10.2 Please note that no part of the Contractor's work may be subcontracted without the prior written approval of the Awarding Authority. The Contractor must complete a minimum of 51% of the scope of this contract by his own work force. If the Contractor desires to subcontract any part of the Work, the Contractor must promptly forward to the Awarding Authority a list in duplicate designating the work to be performed and the name of each proposed subcontractor. Approved subcontractors are eligible for direct payments under M.G.L. 30, sec. 39F, as amended. Material

suppliers not involving site labor need not be submitted for approval.

SECTION 11 - RETURN OF BID DEPOSITS

11.1 All Bid deposits of Bidders, except those of the three (3) lowest responsible and eligible general Bidders, shall be returned within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of the Bids. The Bid deposits of the three (3) lowest responsible and eligible Bidders shall be returned upon the execution and delivery of the Contract, or if no award is made; except that, if any Bidder fails to perform its agreement to execute the Contract and furnish performance and payment bonds as stated in its Bid, then said Bidder's Bid deposit shall become the property of the Commonwealth as liquidated damages; provided that the amount of the Bid deposit that becomes the property of the Commonwealth shall not exceed the difference between the Contractor's Bid price and the Bid price of the next lowest responsible and eligible Bidder; and provided further that, in the case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the Bidder, such Bidder's Bid deposit shall be returned.

11.2 In addition to the provisions for the return of Bid deposits as provided above, upon receipt of a Bid Bond in an amount not less than the amount of the required Bid deposit, the Awarding Authority shall return any Bid deposit of a Bidder forthwith after the public opening of Bids.



**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
STANDARD CONSTRUCTION CONTRACT
For Projects Subject to M.G.L. c. 149 or M.G.L. c. 30, sec. 39M**

PART II

**DEPARTMENT OF CONSERVATION AND RECREATION -
CONTRACTOR AGREEMENT**

Awarding Authority: The Massachusetts Department of Conservation and Recreation

Department Code: DCR

This agreement ("Contract") is made by and between the Commonwealth of Massachusetts, acting by and through the Awarding Authority identified above with a principal place of business at 10 Park Plaza, Suite 6620, Boston, MA 02116, and hereinafter called the "Contractor".

Terms used in this Department of Conservation and Recreation - Contractor Agreement, which are defined in the General Conditions of the Contract, shall have the meanings designated therein.

The Awarding Authority and the Contractor agree as follows:

Article 1. Scope of Work. The Work under this Contract is defined as all work required by the Contract Documents for the construction of Contract No: in accordance with and as described in the Plans and Specifications prepared by and as modified by Addenda () included herein.

Article 2. Time for Completion. The Contractor shall commence the Work under this Contract on the date specified in the written "Notice to Proceed," and shall within Days after such date, bring the Work to Substantial Completion and to the point at which a Certificate of Agency Use and Occupancy may be issued, and shall bring the Work to Final Acceptance within 10 days after the date specified for Substantial Completion.

Article 3. Contract Price. The Awarding Authority shall pay the Contractor, in current funds, for the performance of the Work, subject to additions and deductions by Approved Change Order(s), the Contract Price of and Zero Cents (\$.00).

Article 4. Approved Subcontractors. The filed Subcontractors listed in the Contractor's General Bid submitted by the Contractor have been approved for the performance of the specified portions of the Work subject to the Commonwealth's verification that they have complied with state corporation and partnership registration laws. No other filed Subcontractors and no non-filed Subcontractors shall be used for these or any other portions of the Work without the prior written approval of the Awarding Authority.

Article 5. Certifications. Pursuant to M.G.L. c. 62C, sec. 49A, the individual signing this Contract on behalf of the Contractor hereby certifies, under the penalties of perjury, that to the best of his or her knowledge and belief the Contractor has complied with all applicable state and federal tax laws. The individual signing this Contract on behalf of the Contractor further certifies under penalties of perjury that the Contractor is not presently debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. c. 29, sec. 29F, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder and is not presently debarred from doing public construction work by any agency of the United States.

Article 6. The Contract Documents: The following documents form the Contract are incorporated by reference herein, and are referred to as the "Contract Documents:"

- The Instructions to Bidders
- The General Bid submitted by the Contractor
- This Department of Conservation and Recreation – Contractor Agreement
- The General Conditions of the Contract
- The Special Conditions [Note: the term "Special Conditions" may also refer to Division 1 of the Specifications.]
- The Plans and Specifications, including Addenda identified in Article 1 above
- All Approved Change Orders issued after execution of this Department of Conservation and Recreation - Contractor Agreement

Article 7. Minority Business Enterprise, Women Business Enterprise and Veteran-Owned Business Enterprises Participation requirements and Minority/Women and Veteran-Owned Business Enterprises Workforce Utilization Percentages: The applicable requirements, if any, for minority business enterprise and women business enterprise participation, as well as those for minority and women workforce utilization percentages established for this Contract are to be found at the Notice to Contractors for this project, at Part I – Instructions to Bidders, and are incorporated by reference herein.

Article 8. Liquidated Damages. For the purposes of Article VI of the General Conditions of the Contract, liquidated damages for delay are to be found at the Notice to Contractors for this project at Part I – Instructions to Bidders and are incorporated by reference herein.

Article 9. Insurance Requirements. The insurance requirements are set forth in the Instructions to Bidders and are incorporated herein.

In witness whereof, the parties hereto have caused this instrument to be executed in duplicate under seal as of the date set forth above.

Forms Used During Contract Award and Execution

PAYMENT BOND

PERFORMANCE BOND

CERTIFICATE OF CORPORATE VOTE OF AUTHORITY

CERTIFICATE OF COMPLIANCE WITH STATE TAX LAWS AND WITH UNEMPLOYMENT

COMPENSATION CONTRIBUTION REQUIREMENTS

CERTIFICATE OF LIABILITY INSURANCE

A. SEE PART I, SECTION 7 – ARTICLE 7.1 C.

B. ADDING IN THE DESCRIPTION **DCR AS ADDITIONAL INSURED.**

SCHEDULE FOR WOMEN AND MINORITY BUSINESS ENTERPRISE

LETTER OF INTENT – MINORITY AND WOMEN BUSINESS PARTICIPATION

SCHEDULE FOR VETERAN-OWNED BUSINESS ENTERPRISE

LETTER OF INTENT – VETERAN-OWNED BUSINESS ENTERPRISE

EXECUTIVE ORDER 546 – CONTRACTOR CERTIFICATION - VOB POLICY OF THE

COMMONWEALTH

EXECUTIVE ORDER 481 – CONTRACTOR CERTIFICATION - UNDOCUMENTED WORKERS

POLICY OF THE COMMONWEALTH

EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE FORM

IF APPLICABLE FORM OF SUBCONTRACTOR(S)

IN WITNESS WHEREOF, said Contractor has caused these presents to be signed in its name and its behalf under seal by its officers, duly authorized to do so, and the said Commonwealth has executed these presents by the Commissioner of said Department, or its authorized agent, as prescribed by law, who shall not incur any personal liability by reason of the execution of these presents or of anything herein contained, and who hereby certifies under penalties of perjury that all applicable provisions of M.G.L. c. 149, sec. 44J, have been complied with.

(Executed in duplicate under Seal)

CONTRACTOR:

By: _____ SIGNATURE & SEAL

Name: _____

Title: _____

Date: _____

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION**

By: _____

Name: _____ Nicole LaChapelle

Title: _____ Commissioner

Date: _____

PAYMENT BOND

BOND No. _____

Know all men by these presents, that

as principal and _____
as surety are held and firmly bound unto the Commonwealth of Massachusetts in the sum of
Dollars and Zero Cents (\$.00)
in lawful money of the United States of America, to be paid to the Commonwealth of
Massachusetts, for which payments, well and truly to be made, we bind ourselves, our respective
heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these
presents.

Whereas the said principal has made a Contract with the Commonwealth acting through its
Department of Conservation and Recreation ("Awarding Authority") the construction of

Now the condition of this obligation is such that if the principal shall pay for all labor performed or
furnished and for all materials used or employed in said Contract and in any and all duly authorized
modifications, alterations, extensions of time, changes or additions to said Contract that may hereafter
be made, notice to the surety of such modifications, alterations, extensions of time, changes or additions
being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject
to, the provisions of Massachusetts General Laws, Chapter 30, Section 39A, and Chapter 149, Section
29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force
and virtue.

In witness whereof we hereunto set our hand and seals this ____ day of _____, _____

_____(Seal)
(Print Name of General Contractor)

_____(Seal)
(Print Name of Surety)

By _____
(Signature – Title)

By _____
(Signature – Title)

Surety Address _____

PERFORMANCE BOND

BOND No. _____

Know all men by these presents, that

_____ as principal and _____ as surety are held and firmly bound unto the Commonwealth of Massachusetts in the sum of _____ and Zero Cents (\$.00) in lawful money of the United States of America, to be paid to the Commonwealth of Massachusetts, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Whereas the said principal has made a Contract with the Commonwealth acting through its Department of Conservation and Recreation ("Awarding Authority") the construction of

Now the condition of this obligation is such that if the principal shall well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of said Contract and any extensions thereof that may be granted by the Commonwealth, with or without notice to the surety, and during the life of any guarantee required under the Contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations, changes or additions to said Contract that may hereafter be made, notice to the surety of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

In the event that the Contract is abandoned by the Contractor or is terminated by the Commonwealth under the provisions of said Contract, said surety shall, if requested in writing by the Commonwealth, take such action as is necessary to complete the Contract.

In witness whereof we hereunto set our hand and seals this _____ day of _____, _____

_____(Seal)
(Print Name of General Contractor)

_____(Seal)
(Print Name of Surety)

By _____
(Signature – Title)

By _____
(Signature – Title)

Surety Address _____

CERTIFICATE OF CORPORATE VOTE

I hereby certify that I am the _____ clerk, _____ assistant clerk, of

_____ (the "Corporation") and that at a
(Name of Corporation)

duly authorized meeting of the Board of Directors of the Corporation held on

_____ in _____ at which a quorum was
(Date) (Location)

present and voting it was voted to authorize _____
(Name)

_____ of the Corporation to execute
(Officer Title)

and deliver on behalf of the Corporation Contract, and to act as principal to execute bonds in connection therewith,

I further certify that _____ is the duly qualified and acting
(Name of Corporate Officer)

_____ of the Corporation and that said vote has not been
(Officer Title)

Repealed, rescinded, or amended.

Name

Print Name

Date

(CORPORATE SEAL)

SUBSCRIBED AND SWORN TO THIS _____ DAY OF _____, 20____ BEFORE ME

Notary Public

My Commission Expires: _____

CERTIFICATE OF LLC VOTE

_____, 2026

I hereby certify, warrant and represent that I am the _____ of
the _____ (the "LLC") and that
(Name of LLC)

I am fully and unconditionally authorized, pursuant to the Operating Agreement of the LLC to execute and deliver on behalf of the LLC a contract and all amendments thereto, and to act as principal and to execute bonds in connection therewith:

Mass. State Project No. _____

Project Title: _____

I further certify under the penalties of perjury that I, _____ am the
duly qualified and acting member and principal of the LLC for all purposes.

Name

Print Name

Date

SUBSCRIBED AND SWORN TO THIS ____ DAY OF _____ BEFORE ME

Notary Public
My Commission Expires: _____

CERTIFICATE OF COMPLIANCE WITH STATE TAX LAWS AND WITH UNEMPLOYMENT
COMPENSATION CONTRIBUTION REQUIREMENTS

Pursuant to MGL, c. 62C, s. 49A and MGL, c. 515A, s. 29A, I,

_____ authorized signatory for

_____ whose principal place of business is at

_____ do hereby certify

under penalties of perjury that _____ has filed all

State tax returns and paid all taxes as required by law and has complied with all state laws

pertaining to contributions to the unemployment compensation fund and to payments

in lieu of contributions.

The Business Organization Social Security Number or Federal Identification Number is

_____.

Signed under the penalties of perjury the _____ day of _____ 20_____

Signature: _____

Name and Title: _____

Schedule for Participation by Minority Business Enterprise
(To be completed and submitted within five calendar days from bid opening)

NOTE I: Participation of a Minority-owned enterprise may be counted in only one category.

Minority Business Enterprise Participation in the work

Name & address of MBE Requirement	0%	Dollar Value of Participation	Nature of Participation
1.			
2.			
3.			
4.			
5.			
6.			

Total MBE Commitment: _____

Participation (divide Total Commitment by Total Bid Price)= _____ Percentage MBE

The bidder agrees to furnish implementation reports as required by the Department to indicate the MBE(s) which it has used or intends to use. Breach of this commitment constitutes a breach of contract.

Name of bidder: _____

Date: _____ By: _____

Letter of Intent – Minority Business Enterprise Participation

(To be completed by W or MBE and Submitted by the Low Bidder within five calendar days of bid opening)

Project Number: _____

MBE

Project Location: _____

To: _____

Name of General Bidder

1. My company has been certified by SDO (Supplier Diversity Office) and it has not changed its minority ownership, control, or management without notifying SDO within thirty (30) calendar days of such a change.
2. My company understands that if your company is awarded the contract, your company intends to enter into an agreement with my company to perform the activity described below for the prices indicated. My firm also understands that your firm, as General Bidder, will make substitutions and quantity changes as allowed or required by the provisions of the contract with the Commonwealth.
3. This firm understands that under the terms of Article XIII of the contract, only work **performed** by an MBE will be credited toward MBE participation requirements, and this firm **cannot assign or subcontract out any of its work** without prior written approval of the DCR Compliance Office, and that any such assignment or subcontracting will not be credited toward MBE participation requirements.

W or MBE PARTICIPATION

Contract Item	Description of Activity (with Notation such as "Labor Only", "Material Only", etc.)	Quantity	Unit Price	Total Amount
------------------	---	----------	------------	--------------

Total Dollar Value: _____

(Additional copies of this form shall be prepared by the Contractor in the quantity necessary to comply with the contract.)

Name of MBE

Firm _____ Authorized Signature _____

Business Address _____

Print Name _____ Title _____

Telephone No. _____ Cell: _____ Date _____

Schedule for Participation by Women Business Enterprise
(To be completed and submitted within five calendar days from bid opening)

NOTE I: Participation of a Woman-owned enterprise may be counted in only one category.

Women Business Enterprise Participation in the work

Name & address of WBE	Dollar Value of Participation	Nature Participation
1. _____ _____		
2. _____ _____		
3. _____ _____		
4. _____ _____		
5. _____ _____		
6. _____ _____		

Total WBE Commitment: _____

Percentage WBE Participation (divide Total Commitment by Total Bid Price) = _____

The bidder agrees to furnish implementation reports as required by the Department to indicate the WBE(s) which it has used or intends to use. Breach of this commitment constitutes a breach of contract.

Name of bidder: _____

Date: _____ By: _____

Letter of Intent – Women Business Enterprise Participation

(To be completed by WBE and Submitted by the Low Bidder within five calendar days of bid opening)

Project Number: _____

WBE

Project Location: _____

To: _____

Name of General Bidder

4. My company has been certified by SDO (Supplier Diversity Office) and it has not changed its women ownership, control, or management without notifying SDO within thirty (30) calendar days of such a change.
5. My company understands that if your company is awarded the contract, your company intends to enter into an agreement with my company to perform the activity described below for the prices indicated. My firm also understands that your firm, as General Bidder, will make substitutions and quantity changes as allowed or required by the provisions of the contract with the Commonwealth.
6. This firm understands that under the terms of Article XIII of the contract, only work **performed** by a WBE will be credited toward WBE participation requirements, and this firm **cannot assign or subcontract out any of its work** without prior written approval of the DCR Compliance Office, and that any such assignment or subcontracting will not be credited toward WBE participation requirements.

W or MBE PARTICIPATION

Contract Item	Description of Activity (with Notation such as "Labor Only", "Material Only", etc.)	Quantity	Unit Price	Total Amount
------------------	---	----------	------------	--------------

Total Dollar Value: _____

(Additional copies of this form shall be prepared by the Contractor in the quantity necessary to comply with the contract.)

Name of WBE Firm _____ Authorized Signature _____

Business Address _____

Print Name _____ Title _____

Telephone No. _____ Cell: _____ Date _____

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION
VETERAN OWNED BUSINESS ENTERPRISE POLICY
AND CONTRACTOR CERTIFICATION**

In accordance with Executive Order No. 546, it is the policy of the Commonwealth and its executive agencies to promote self-reliance among veterans by offering such veterans who own and control business enterprises the opportunity to participate in state contracting activity, as well as to assist and encourage the participation of businesses owned and controlled by veterans in all areas of state procurement contracting, including contracts for public construction, design services, and commodities and services.

The Massachusetts Executive Office of Administration and Finance has therefore established the Veteran-Owned Business Enterprise (VOBE) Program (the "Program") to oversee the inclusion of business enterprises owned and controlled by veterans in all areas of state procurement contracting, including contracts for construction, design and professional services, and commodities and services. For more information on this Order, see: <http://www.mass.gov/governor/legislationeeexecorder/executiveorder/executive-order-no-546.html>.

DCR Requires Contractors to acknowledge this policy and the requirements as provided in the contract by signing this certification as well as the Contract Documents.

CONTRACTOR CERTIFICATION

As evidence by the signature of the Contractor's Authorized Signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor acknowledges the above-referenced policy as set forth in Executive Order 546, has read Executive Order 546, and will abide the requirements concerning the policy and order as set forth in the referenced Contract. The Contractor acknowledges that if the Contractor has not submitted an appropriate Schedule for VOB Participation and appropriate Letters of Intent establishing that the VOB participation requirements for the project will be met, the Contractor may not be considered eligible for Award of the Contract unless he/she requests a waiver by completing and submitting the waiver form to the Contracts Administrator/DCR and that request is approved. The Contractor also understands and agrees that a breach of any of these terms during the period of the Contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension and /or termination.

Contractor Authorizing Signature

Date:_____

Print Name

Title:_____

Telephone:_____

Cell:_____

Email:_____

Schedule for Participation by Veteran-Owned Business Enterprise

(To be completed and submitted within five (5) calendar days from bid opening)

NOTE: Participation of a Veteran-Owned Enterprise may be counted in only one category; the same participation cannot be used in computing the percentage of MBE/WBE participation.

Veteran-Owned Business Enterprise Participation in the work

Name & address of VOB 0%	Dollar Value of Participation	Nature Participation
1. _____		

2. _____		

3. _____		

4. _____		

5. _____		

6. _____		

Total VOB Commitment: _____

Percent VOB Participation (divide Total Commitment by Total Bid Price)= _____

The bidder agrees to furnish implementation reports as required by the Department to indicate the VOB(s) which it has used or intends to use. Breach of this commitment constitutes a breach of contract.

Name of bidder: _____

Date: _____ By: _____

Letter of Intent – Veteran-Owned Business Enterprise Participation

(To be completed by VOB and Submitted by the Low Bidder within five (5) calendar days of bid opening; use and prepare extra forms as needed)

DCR Contract/ Project Number: _____

Project Location: _____

To: _____

VOBE

Name of General Bidder

My company has been certified by the Department of Veterans Affairs and or [Supplier Diversity Office](#) (SDO). It has not changed its veteran ownership, control, or management without notifying the Department of Veterans Affairs within thirty (30) calendar days of such a change.

1. My company understands that if your company is awarded the contract, your company intends to enter into an agreement with my company to perform the activity described below for the prices indicated. My firm also understands that your firm, as General Bidder, will make substitutions and quantity changes as allowed or required by the provisions of the contract with the Commonwealth.
2. This firm understands that under all relevant terms of the contract, only work **performed** by a VOB will be credited toward VOB participation requirements, and this firm **cannot assign or subcontract out any of its work** without prior written approval of the DCR Compliance Office, and that any such assignment or subcontract will not be credited toward VOB participation requirements.

VOBE PARTICIPATION

Contract **Description of Activity** (with Item Notation such as "Labor Only", Quantity, Unit Price, Total Amount, "Material Only", etc.):

Activity	Labor or Material Only?	Quantity Unit Price	Total Dollar Value

VOBE Firm Name _____

Authorized Signature _____

Printed Name _____ Title _____

Telephone No. _____ Cell No. _____

E-mail: _____ Date _____

INSTRUCTIONS:

Executive Order 481 applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts, all contracts entered after February 23, 2007, require that contractors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

CONTRACTOR CERTIFICATION:

As evidenced by the signature of the Contractor's Authorized Signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Contractor shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

Contractor Authorizing Signature

Date: _____

Print Name

Title: _____

Telephone: _____

Cell: _____

Email: _____

EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE FORM

Contractor's Certificate

A contractor shall not be eligible for award of a contract unless such a contractor has submitted the following certification to the Awarding Authority, said certification shall be deemed a part of the resulting contract:

Contractor's Certification

X _____

(Contractor)

certifies that it intends to use the following listed **certification trades** in the work subject to this contract.

X _____

and, further, that it will comply with the minority manpower ratio and specific affirmative action steps contained herein; and will obtain from each of its subcontractors and submit to the Awarding Authority prior to the award of any subcontract under this contract, the subcontractor certification required by these bid conditions.

X _____

(Signature of authorized representative of contractor)

Subcontractor's Certification

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the general contractor the following certification, which shall be deemed a part of the resulting subcontract:

(Subcontractor)

certifies that: it intends to use the following listed construction trades in the work under the subcontract

and, further, it will comply with the manpower ratio and specific affirmative action steps contained herein and will obtain from each of the subcontractors prior to the award of any subcontract under this subcontract, the subcontractor certification required by these bid conditions.

(Signature of authorized representative of subcontractor)

To ensure that said subcontractor's certification becomes a part of all subcontracts under the general contract, no subcontract shall be executed unless or until an authorized representative of the Awarding Authority administering this contract has determined, in writing, that said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

Exhibit A
Executive Order 504 Contractor Certification Form

BIDDER/CONTRACTOR LEGAL NAME:

BIDDER/CONTRACTOR VENDOR/CUSTOMER CODE: VC

Executive Order 504: For all Contracts involving the Contractor's access to personal information, as defined in M.G.L. c. 93H, and personal data, as defined in M.G.L. c. 66A, owned or controlled by Executive Department agencies, or access to agency systems containing such information or data (herein collectively "personal information"), Contractor certifies under the pains and penalties of perjury that the Contractor (1) has read Commonwealth of Massachusetts Executive Order 504 and agrees to protect any and all personal information; and (2) has reviewed all of the Commonwealth of Massachusetts Information Technology Division's Security Policies available at www.mass.gov/ITD under Policies and Standards.

Notwithstanding any contractual provision to the contrary, in connection with the Contractor's performance under this Contract, for all state agencies in the Executive Department, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established, the Contractor shall:

(1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth of Massachusetts Information Technology Division's Security Policies ("Security Policies") available at www.mass.gov/ITD under Policies and Standards.

(2) communicate and enforce the contracting agency's ISP and such Security Policies against all employees (whether such employees are direct or contracted) and subcontractors.

(3) implement and maintain any other reasonable appropriate security procedures and practices necessary to protect personal information to which the Contractor is given access by the contracting agency from the unauthorized access, destruction, use, modification, disclosure, or loss.

(4) be responsible for the full or partial breach of any of these terms by its employees (whether such employees are direct or contracted) or subcontractors during or after the term of this Contract, and any breach of these terms may be regarded as a material breach of this Contract.

(5) in the event of any unauthorized access, destruction, use, modification, disclosure or loss of the personal information (collectively referred to as the "unauthorized use"): (a) immediately notify the contracting agency if the Contractor becomes aware of the unauthorized use; (b) provide full cooperation and access to information necessary for the contracting agency to determine the scope of the unauthorized use; and (c) provide full cooperation and access to information necessary for the contracting agency and the Contractor to fulfill any notification requirements.

Breach of these terms may be regarded as a material breach of this Contract, such that the Commonwealth may exercise all contractual rights and remedies, including without limitation indemnification under Section 11 of the Commonwealth's Terms and Conditions, withholding of payments, contract suspension, or termination. In addition, the Contractor may be subject to applicable statutory or regulatory penalties, including and without limitation, those imposed pursuant to M.G.L. c. 93H and under M.G.L. c. 214, § 3B for violations under M.G.L. c. 66A.

Bidder/Contractor Name: _____

Bidder/Contractor Authorized Signature: _____

Print Name and Title of Authorized Signatory: _____

Date: _____

This Certification may be signed once and photocopied to be attached to any
Commonwealth Contract that does not already contain this Certification Language and shall be interpreted to be incorporated by reference
into any applicable contract subject to Executive Order 504 for this Contractor.



COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
STANDARD CONSTRUCTION CONTRACT

PART III

GENERAL CONDITIONS OF THE CONTRACT

FOR PROJECTS SUBJECT TO M.G.L. CH. 149 OR
M.G.L. CH. 30, SEC. 39M

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ARTICLE I: DEFINITION OF TERMS

The following words shall have the following meanings as used in this Contract:

Advertisement: The Advertisement or Notice Inviting Bids or Proposals for the Work identified in Article 1 of the Department of Conservation and Recreation - Contractor Agreement.

Approval: (or approved): An approval in writing signed by the authorized signatory of the Awarding Authority.

As directed (As permitted, as required, as determined or words of like effect): The direction, permission, requirement, or determination of the Awarding Authority. Similarly, *approved, acceptable, satisfactory* or words of like import shall mean approved by or acceptable or satisfactory to the Awarding Authority.

Awarding Authority: The Department of Conservation and Recreation, the public agency awarding and administering this Contract, as identified in the Department of Conservation and Recreation - Contractor Agreement. Where the Awarding Authority is an agency of the Commonwealth, references to the Awarding Authority shall also include the Commonwealth and its agencies.

Building Code: All applicable rules and regulations to which the Awarding Authority is subject, and which are contained or referenced in the code authorized by M.G.L. c. 143, sec. 93 et seq., including all amendments thereto.

Change Order: (1) A written order not requiring the consent of the Contractor, signed by the Project Engineer, and designated as a Change Order, directing the Contractor to make changes in the Work within the general scope of the Contract, or (2) any written or oral order from the Project Engineer that causes any change in the Work, provided that the Contractor has given the Awarding Authority written notice stating the date, circumstances, and source of the order and that the Contractor regards the order as a Change Order.

Contract: The Contract formed by the Contract Documents as defined in Article 6 of the Department of Conservation and Recreation - Contractor Agreement.

Contract Documents: The documents listed in Article 6 of the Department of Conservation and Recreation - Contractor Agreement.

Contract Modification: Any alteration of the Contract Documents accomplished by a written agreement properly executed by the parties to this Contract.

Contract Price: The Contract Price stated in Article 3 of the Department of Conservation and Recreation - Contractor Agreement, which is the total sum, owed to the Contractor for all the Work.

DCR: The Department of Conservation and Recreation, the public agency awarding and administering this Contract.

Designer: The architect or engineer who prepared the plans and specifications for the work, identified as the Designer in Article 1 of the Department of Conservation and Recreation - Contractor Agreement.

Dispute Review Board: A panel of three experienced impartial reviewers organized and agreed upon by the DCR and Contractor. The Board members are provided with project plans and Specifications and become familiar with project procedures and participants. The Board meets on the job site regularly to encourage the resolution of disputes at the job level and renders non-binding recommendations on the resolution of the dispute.

Drawings: The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, and dimensions of the Work, generally including Plans, elevations, sections, details, schedules, and diagrams.

Engineer: The Project Engineer, except that the term "Resident Engineer" shall have the meaning otherwise specified herein.

Final Acceptance: The written determination by the Awarding Authority that the Work has been 100% completed, except for the Contractor's indemnification obligations, warranty obligations, obligations to continue to maintain insurance coverage for the time periods provided in the Contract Documents, and any other obligations which are intended to survive Final Acceptance and/or the termination of the Contract.

General Bid: The completed bid form submitted by the Contractor in accordance with the requirements of either M.G.L. c. 149 or M.G.L. c. 30, sec. 39M.

Laws: All applicable statutes, regulations, ordinances, codes, laws, orders, decrees, approvals, certificates, and

requirements of governmental and quasi-governmental authorities.

Neutral: An impartial third party not having an interest in the Owner, DCR, the Contractor or the Project.

Notice to Proceed: The written notice provided by the Awarding Authority to the Contractor which authorizes the Contractor to commence the Work as of a date specified therein and complete the entire Work of the Contract by a date specified therein.

Or equal (or words of like import): Equal in the opinion of the Awarding Authority, determined pursuant to the provisions of M.G.L. c. 30, sec. 39M and the provisions of these General Conditions of the Contract.

Owner: The Commonwealth of Massachusetts or political subdivision thereof, authority, or other instrumentality that will own the Work.

Plan(s): Drawing(s).

Product Data: Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor or its Subcontractors and suppliers to illustrate materials or equipment for some portion of the Work. Product data also include any such information or instructions produced by the manufacturer or distributor of such materials or equipment and made readily available by said manufacturer or distributor.

Progress Schedule: The progress schedule Approved by the Awarding Authority in accordance with Article VI of these General Conditions of the Contract.

Project: The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner, the Department of Conservation and Recreation, or by separate contractors.

Project Engineer: The Awarding Authority's representative assigned to the Project.

Punch List: A list of items determined by the Awarding Authority to be minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the Work for its intended purpose.

Resident Engineer: The On-Site representative of the Awarding Authority.

Samples: Samples are physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

Schedule of Values: The schedule Approved by the DCR pursuant to Article VIII of these General Conditions of the Contract which allocates the Contract Price to the various portions of the Work and is used as a basis for payments to the Contractor.

Shop Drawings: Drawings, diagrams, details, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate a portion of the Work.

Site: The land and, if any, building(s), space within any such building(s), or other structures on which or in which the Contractor is to perform the Work.

Specifications: The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work and performance of related services.

Subcontractor: Person or entity with whom the Contractor contracts to perform the Work, except as otherwise specifically provided or required herein or by Law.

Substantial Completion: For work subject to M.G.L. c. 30 sec. 39K, "substantial completion" shall occur when (1) the Contractor fully completes the Work or substantially completes the Work so that the value of the Work remaining to be done is, in the estimate of the DCR, less than one percent of the original contract price, or (2) the Contractor substantially completes the Work and the DCR takes possession for occupancy, whichever occurs first. For work subject to M.G.L. c. 30 sec. 39G, "substantial completion" shall mean either that the work required by the Contract has been fully completed, completed except for work having a Contract Price of less than one percent of the then adjusted total Contract Price, or substantially all of the Work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the Work.

Superintendent: The licensed construction supervisor who is an employee of the Contractor designated to be in full-time attendance at the Site throughout the prosecution and progress of the Work and who shall have complete authority to act for the Contractor.

Work: The Work defined in Article 1 of the Department of Conservation and Recreation - Contractor Agreement, Article II, Section 2 of these General Conditions of the Contract and otherwise in the Contract Documents.

Working Hours: 7:00 a.m. to 5:00 p.m., but not more than eight hours per day, Monday through Friday, unless

otherwise specified by applicable Laws or deemed necessary by the DCR for traffic considerations or to minimize another contract impacts to the public.

All terms that this Contract defines may be used with or without initial capital letters. Other terms, abbreviations and references are defined as they appear herein. Words and abbreviations that are not defined in the Contract Documents, but which have recognized technical, or trade meanings are used in accordance with those meanings. For additional definitions of terms, abbreviations and references refer to the *Special Conditions or Specifications*.

ARTICLE II: EXECUTION OF THE CONTRACT, SCOPE OF WORK, INTERPRETATION OF CONTRACT DOCUMENTS

1. Execution.

The execution of the Department of Conservation and Recreation – Contractor Agreement by the Contractor is a representation that the Contractor has visited the Site, has become familiar with local conditions under which the Work is to be performed and has correlated personal observations with requirements of the Contract Documents.

2. Scope of Work.

The Work consists of the Work identified in the Contract Documents. The Work comprises the completed construction required by the Contract Documents and includes all labor, tools, materials, supplies, equipment, permits, approvals, paperwork, calculations, submittals, and certificates necessary to develop, construct and complete the Work in accordance with all Laws, and all construction and other services required to be supervised, overseen, performed or furnished by the Contractor or that the Contract Documents require the Contractor to cause to be supervised, overseen, performed or furnished. The Contractor shall provide and perform for the Contract Price all the duties and obligations set forth in the Contract Documents.

3. Interpretation.

A. The Plans and Specifications and other Contract Documents are to be considered together and are intended to be mutually complementary, so that any work shown on the Plans though not specified in the Specifications, and any work specified in the Specifications though not shown on the Plans, is to be executed by the Contractor as a part of this Contract.

B. All things that in the opinion of the Project Engineer may be reasonably inferred from the Plans, Specifications and other Contract Documents are to be executed by the Contractor. The Project Engineer shall determine whether the detail Plans conform to the general Plans and Contract Documents, except as may be otherwise determined by the DCR.

C. The tables of contents, titles, headings and marginal notes or sub-scripts contained herein are solely to facilitate references, are not intended to be construed as provisions of the Contract, and in no way affect the interpretation of the provisions to which they refer.

D. Where reference is made in the Contract Documents to publications, standards, or codes issued by associations or societies, such reference shall be interpreted to mean the current edition of such publications, standards, or codes, including revisions in effect on the date of the Advertisement, notwithstanding any reference to a particular date. The foregoing sentence shall not apply to the dates, if any, specified with respect to insurance policy endorsement forms.

E. In case of any conflict among the Contract Documents, unless the context clearly otherwise requires, the Contract Documents shall be construed according to the following priorities:

- Priority: Contract Modifications
- Second Priority: Department of Conservation and Recreation - Contractor Agreement
- Third Priority: General Conditions of the Contract
- Fourth Priority: Special Conditions of the Contract
- Fifth Priority: Drawings -- Schedules take precedence over enlarged detail Drawings, and enlarged Detail Drawings take precedence over reduced scale Drawings; figured dimensions shall prevail over scale.
- Sixth Priority: Specifications

4. Distribution of Work.

The distribution of the Work is intended to be described under the appropriate trades and, except for filed sub-bid work, may be redistributed, except as directed herein, provided that such redistribution shall cause no controversy among the trades and no delay in the progress of the Work.

5. Contract Price.

The Contract Price constitutes full compensation to the Contractor for everything to be performed and furnished in connection with the Work and for all damages arising out of the performance of the Work and/or the action of the elements and constitutes the maximum compensation regardless of any difficulty incurred by the Contractor in connection with the Work or in consequence of any suspension or discontinuance of the Work. The costs associated with the requirements of the General Conditions and any required in the Special Conditions or Specifications shall be included in the Contract Price and no direct or separate payment shall be made to the Contractor.

ARTICLE III: CONTROL OF WORK/ADMINISTRATION OF THE CONTRACT

1. DCR.

The Project Engineer shall be responsible for the general administration of the Contract. Except as otherwise specifically provided herein, the Project Engineer shall decide all questions which may arise as to the conduct, quantity, quality, equality, acceptability, fitness, and rate of progress of the several kinds of work and materials to be performed and furnished under this Contract and shall decide all questions which may arise as to the interpretation of the Plans and Specifications and as to the fulfillment of this Contract on the part of the Contractor.

2. Right of Access to Work.

The DCR, and persons designated by it, may for any purpose enter upon the Work, the Site, and premises used by the Contractor, and the Contractor shall provide safe facilities therefor. Other contractors of the DCR may also enter upon the same for the purposes which may be required by their contracts or work. Any differences or conflicts which may arise between the Contractor and other contractors of the DCR with respect to their work shall be initially resolved by the DCR.

3. Inspection No Waiver.

No inspection by the DCR or its employees or agents, and no order, measurement, certificate, approval, payment order, payment, acceptance or any other action or inaction of any of them, shall operate as a waiver by the DCR of any provision of this Contract.

ARTICLE IV: GENERAL PERFORMANCE OBLIGATIONS OF THE CONTRACTOR

The Contractor shall complete for the Contract Price all the Work in a proper, thorough, and workmanlike manner in accordance with the Contract Documents. Without limiting the foregoing and without limiting the Contractor's obligations under any other provision of the Contract Documents, the Contractor shall for the Contract Price perform the following general obligations:

1. Review of Contract Documents and Field Conditions.

A. Before commencing the Work, the Contractor shall carefully study the Contract Documents and carefully compare all Specifications, Plans, Drawings, figures, dimensions, lines, marks, scales, directions of the Project Engineer, and any other information provided by the DCR and shall at once report to the Project Engineer in writing any questions, errors, inconsistencies, or omissions.

B. Before commencing the Work, the Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents and shall at once report to the Project Engineer in writing any questions, errors, inconsistencies, or omissions.

C. Any work performed by the Contractor after the discovery of said discrepancies without the written approval of the DCR shall be at the Contractor's risk and expense.

D. The Contractor shall be responsible for all errors in the Work arising from the Contractor's failure to comply with any of the requirements set forth in this section. The Contractor shall not be entitled to any extra compensation for any work or expense arising from or caused by his/her failure to comply with said requirements.

2. Supervision and Construction Procedures: Coordination; Cutting, and Patching.

A. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and shall have control over, construction means, methods, techniques, sequences, and procedures, and shall be responsible for coordinating all portions of the Work under the Contract.

B. The Contractor shall be responsible for the proper fitting of all work and the coordination of the operations of all trades, subcontractors, and material suppliers engaged upon the Work. The Contractor shall guarantee to each of its subcontractors all dimensions which they may require for the fitting of their work to all surrounding work. Where equipment and lines of piping are shown diagrammatically, the Contractor shall be responsible for the coordination and orderly arrangement of the various lines of embedded piping and conduit included in the Work. The Contractor shall coordinate the work of any Subcontractor and prevent all interferences between the equipment, lines of piping or structural and architectural features, and avoid any unsightly arrangements in exposed work.

C. The Contractor should note that other contractors may be working on or near the Site where the Contractor's Work is being performed. The Contractor shall coordinate his/her work and the operations of all trades, subcontractors, and material suppliers engaged upon the Work so as not to interfere with or hinder the progress or completion of work being performed under another DCR contract.

D. All necessary cutting, coring, drilling, grouting, and patching required to fit together the several parts of the Work shall be done by the Contractor, except as may be specifically noted otherwise under any filed sub-bid section of the Specifications.

E. The Contractor shall be responsible to the DCR for the acts and omissions of the Contractor's employees, agents and Subcontractors, and their agents and respective contractors' employees, and other persons performing portions of the Work or supplying materials therefor.

F. The Contractor shall be responsible for the inspection of portions of the Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

G. The Contractor shall employ a registered land surveyor to perform any engineering required for establishing grades, lines, levels, dimensions, layouts, and reference points for the trades. The Contractor shall be responsible for maintaining benchmarks and other survey marks and shall replace any benchmarks or survey marks that may have become disturbed or destroyed. The Contractor shall verify the materials shown on the Drawings before laying out the Work and shall be responsible for any error resulting from its failure to exercise this precaution.

H. Unless otherwise required by the Plans and Specifications, or directed in writing by the DCR, Work shall be performed during regular Working Hours. However, if the Contractor desires to carry on the Work outside of regular working hours or on Saturdays, Sundays, or Massachusetts or federal holidays, then the Contractor shall allow ample time to allow satisfactory arrangements to be made for inspecting Work in progress and shall bear the costs of such inspection. The DCR shall bill the Contractor directly for such costs.

I. Work performed outside of regular Working Hours without the consent or knowledge of the DCR shall be subject to additional inspection and testing as directed by the DCR. The cost of this inspection and testing shall be borne by the Contractor whether the Work is found to be acceptable or not. The DCR at its election shall be entitled either to issue a credit Change Order to cover such cost or to withhold such cost from any further payments due the Contractor and/or to receive a payment from the Contractor of the amount of such cost.

3. Superintendent.

A. The Contractor shall employ a Superintendent whose appointment shall be subject to the Approval of the DCR. The Superintendent shall attend the Site full-time during the performance of the Work. The Superintendent shall represent the Contractor. Communications given to and from the Superintendent shall be deemed given to and from the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed upon written request in each case. The Superintendent shall attend each job meeting. The Superintendent shall be responsible for coordinating all the Work of the Contractor and the Subcontractors.

B. The Superintendent shall be a competent employee regularly employed by the Contractor. The Superintendent shall be licensed in accordance with the Building Code, if applicable, and shall have satisfactorily performed similar duties on previous construction projects similar in type, complexity, and scale to the Project. The Superintendent's resume shall be submitted to the DCR prior to commencement of construction together with such other information as the DCR may reasonably require determining whether to Approve of his or her appointment. Any change in the Superintendent shall require the prior consent of the DCR. The Contractor shall establish an emergency telephone line by which the DCR or its agents may contact the Superintendent during non-working hours.

4. Labor.

A. The Contractor shall employ only competent workers. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. Whenever the DCR shall notify the Contractor in writing that any worker is, in the DCR's opinion, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such employee shall be discharged from the Work and shall not again be employed on the Project except with the consent of the DCR.

B. The Contractor shall employ enough workers to carry on the Work with all proper speed in accordance with Laws, the requirements of the Contract Documents, and the Progress Schedule.

C. The Contractor shall procure materials from such sources and shall manage its own forces and the forces of its Subcontractors and any sub-subcontractors in such a manner as will result in harmonious labor relations on the Project Site. If union and nonunion workers are employed to perform any part of the Work, the Contractor shall establish and maintain separate entrances to the Site for the use of union and nonunion workers. The Contractor shall cause persons to be employed in the Work who will work in harmony with others so employed. Should the Work be stopped or materially delayed in the DCR's reasonable judgment due to a labor dispute, the DCR shall have the right to require the Contractor to employ substitutes acceptable to the DCR.

D. The Contractor shall bear the entire expense, and no separate or direct payment shall be made by the DCR, because of extra work which may be necessary because of inferior workmanship, or for specific items of work which are normally considered a part of good workmanship in completing any phase of the work.

5. Notices and Permits.

A. The Contractor at its sole cost shall take out and pay for all approvals, permits, certificates and licenses required by Laws, pay all charges and fees, and pay for (or cause the appropriate Subcontractor to pay for) all utilities required for the proper execution of the Work. All permits secured by the Contractor, complete with the application and orders of conditions, shall be kept on file in the Contractor's office and field office with copies submitted to the Project Engineer.

B. The Contractor shall comply with all Laws and shall give all notices required thereby.

C. Except as otherwise specified in this Contract, it is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable Laws. However, if the Contractor observes that portions of the Contract Documents are at variance with the requirements of Laws, the Contractor shall promptly notify the DCR in writing, and necessary changes shall be accomplished by an appropriate Contract Modification.

D. If the Contractor performs work knowing it to be contrary to Laws without giving such notice to the DCR, the Contractor shall bear full responsibility for such Work and all costs attributable thereto, including, without limitation, corrections to the Work.

6. Lines, Marks etc.

The Contractor shall furnish batter boards and stakes and shall cause to be placed and maintained thereon to be easily read, such lines, marks and directions relating to the Work as the Project Engineer shall from time to time direct. The Project Engineer shall establish base lines and benchmarks on the Drawings for the locations of the Work but all other lines and grades in the field shall be determined by the Contractor.

7. Excavation.

The Contractor shall prevent by sheeting and shoring or bracing, if necessary, any caving or bulging of the sides of any excavation made by the Contractor, leaving sheeting, and shoring in place, or if any is removed, filling solid the spaces left thereby.

8. Dewatering/Hoisting/Staging.

The Contractor shall provide pumping, drainage, and disposal of all water and other flows so that no puddle, nuisance, or damage will be caused by water or flooding. If pumping results in contaminated water the Contractor shall take appropriate measures to treat this water prior to discharge and shall seek appropriate permits for discharge of water. The Contractor shall provide all hoisting equipment and machinery required for the proper execution of the Work. The Contractor shall provide all exterior and interior staging required to be over eight feet in height, except as may be otherwise provided in the Contract Documents.

9. Corrections to the Work: Inspection No Bar to Subsequent Corrections.

The DCR's inspection of the Work shall not relieve the Contractor of its responsibilities to fulfill the Contract obligations. Defective work may be rejected by the DCR whether such work and/or materials have been previously overlooked or misjudged by the Resident Engineer or Project Engineer and accepted for payment. If the Work or any part thereof shall be found defective at any time before the Final Acceptance of the whole Work, the Contractor shall forthwith cease the performance of any defective work in progress and, whether such work is still in progress, shall forthwith correct such defect in a manner satisfactory to the Project Engineer. If any material brought upon the Site for use in the Work, or selected for the same, shall be rejected by the Project Engineer as unsuitable or not in conformity with the Contract Documents, or as damaged by casualty or deteriorated due to improper storage at the Site or to any other factor, the Contractor shall forthwith remove such materials from the Site. The Contractor shall pay for the cost of making good all work or property of other contractors, the Owner or of the Department of Conservation and Recreation destroyed or damaged by such removal or replacement; repair any injury, defect, omission, or mistake in the Work as soon as it is discovered; finish and immediately make good any defect, omission, or mistake in the Work; and complete and leave the Work in perfect condition.

10. Sanitary Facilities.

The Contractor shall provide and maintain sanitary facilities for all persons employed on the Work, beginning with the first worker at the Site. Said facilities shall meet the following requirements unless otherwise specified in the Special Conditions or Specifications.

A. There shall be no fewer facilities than the number required by applicable Laws.

B. Facilities shall be always kept in a clean sanitary condition and shall be adequately screened to be inaccessible to flies. (**Note:** If existing sanitary facilities at the Site are to be used by the Contractor, this requirement will be modified accordingly in the Special Conditions or Specifications.)

11. Temporary Offices.

A. Contractor's Field office. The Contractor shall erect a temporary field office at or near the Site of the Work at which the Contractor's authorized representative shall be always present while the Work is in progress. Instructions, notices, and other communications delivered there by the DCR shall be deemed delivered to the Contractor. The Contractor shall adequately furnish and maintain this office in a clean, orderly condition.

B. Resident Engineer's Office. The Contractor shall erect an Office for the Resident Engineer if, and as required by the Special Conditions or Specifications of the Contract.

12. Telephones.

A. The Contractor shall provide and maintain telephone service in the Contractor's field office. The Contractor shall pay for all calls and costs relating to this service. The DCR and its employees and authorized agents shall always be allowed the use of this telephone service without charge. Telephone service and equipment shall meet the requirements, if any, of the Special Conditions or Specifications.

B. The Contractor shall also provide and maintain telephone service in the Resident Engineer's Office, when the Contractor is required to erect such office, for the use of the DCR and its employees and authorized agents. The Contractor shall pay for all calls and costs relating to this service. Telephone service and equipment shall meet the requirements, if any, of the Special Conditions or Specifications.

13. Project Sign.

A. The Contractor shall furnish and erect at a suitable location, Approved by the Project Engineer, at the start of the work, a sign having dimensions of at least eight (8) feet long by four (4) feet high, bearing the words: Massachusetts Department of Conservation and Recreation. Also included may be the project title, expected completion date, and facility name.

B. The Contractor shall submit the design of the sign to the Project Engineer for review and approval prior to posting.

14. Contract Documents and Samples at the Site.

The Contractor shall maintain at the Site for the use and information of the DCR one record copy of the Drawings, Specifications, Addenda, Change Orders, Approved Shop Drawings, Product Data, Samples, updated Progress Schedule, and all other submittals, all in good order and marked currently to record changes and selections made during construction. These shall be available to the DCR and shall be delivered to the DCR upon completion of the Work.

15. Safety Laws, Regulations, and Practices.

A. The Contractor shall comply with all health and safety Laws applicable to the Work. Without limitation,

(1) If the Contractor uses or stores toxic or hazardous substances it shall comply with M.G.L. c. 111F, sec. 2, the "Right to Know" law and regulations promulgated by the Department of Public Health, 105 CMR 670, the Department of Environmental Protection, 310 CMR 33, and the Department of Labor and Workforce Development, 441 CMR 21; and shall post a Workplace Notice obtainable from the Department of Labor and Workforce Development.

(2) The Contractor shall comply with the Federal Resource Conservation and Recovery Act, the Federal Comprehensive Environmental Response, Compensation and Liability Act, M.G.L. c. 21C, M.G. L. c. 21E, and any other Laws affecting toxic or hazardous materials, solid, special, or hazardous waste (collectively "Hazardous Materials Laws"). Should the Contractor discover unforeseen materials subject to Hazardous Materials Laws at the Site, the Contractor shall immediately notify the DCR of such discovery.

(3) The Contractor shall be responsible for the location of all utilities in connection with the Work. Without limiting the foregoing, the Contractor shall comply with Dig Safe Laws. Dig Safe is the Utility Underground Plant Damage Prevention System established pursuant to M.G.L. c. 164, sec. 76D. This System is operated by Dig Safe Systems, Inc., located at 331 Montvale Avenue, Woburn, MA 01801, whose toll-free telephone number is 1-888-DIG-SAFE (1-888-344-7233). The Contractor shall notify Dig Safe of contemplated excavation, demolition, or explosive work in public or private ways, and in any utility company right of way or easement, by certified mail, with a copy to Department of Environmental Protection (DEP). This notice shall be given at least 72 hours prior to the work, but not more than sixty days before the work is to be done. Such notice shall state the name of the street or the route number of the way and shall include an accurate description of the location and nature of the proposed work. Dig-Safe is required to respond to the notice within 72 hours of receipt by designating the location of pipes, mains, wires, or conduits at the Site. The Contractor shall not commence work until Dig-Safe has responded. The work shall be performed in such manner and with reasonable precautions taken to avoid damage to utilities under the surface at the work location. The Contractor shall provide the Superintendent with current Dig-Safe regulations, and a copy of M.G.L. c. 82, sec. 40. Any costs related to the services performed by Dig-Safe shall be borne by the Contractor.

(4) The Contractor shall comply with Public Law 92-596, "Occupational Safety and Health Act of 1970" (OSHA), with respect to all rules and regulations pertaining to construction, U.S. Code Title 29, sections 651 et seq. including Volume 36, numbers 75 and 105 of the Federal Register as amended, and as published by the U.S. Department of Labor.

(5) The Contractor shall comply with M.G.L. c. 149, sec. 129A, relative to shoring and bracing of trenches.

B. The Contractor shall take reasonable precautions to prevent damage, injury, or loss to persons (whether under his management, DCR staff, or the public) or property. Nothing herein shall relieve Subcontractors of their responsibility for the safety of persons and property, and for compliance with all Laws applicable to the Work and their activities in connection therewith. Without limitation, the Contractor shall take all reasonable precautions for the safety of, and the prevention of injury or damage to (1) all agents and employees and contractors on the Work and all other persons who may be affected thereby including the general public, (2) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the Site, under the care custody or control of the Contractor or any of its Subcontractors or any contractors directly or indirectly contracting through any of them, and (3) other property at the Site or adjacent thereto, including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of the Work. The Contractor shall promptly remedy all damage or loss to any such property caused in whole or in part by the Contractor, any Subcontractor, or anyone directly or indirectly contracted or employed by any of them or by anyone for whose acts any of them may be liable. Without limiting the foregoing, the Contractor shall:

(1) post and maintain adequate danger signs and other warnings against hazards.

(2) promulgate safety regulations and give appropriate notices to the DCR and users of adjacent utilities and property.

- (3) ensure the adequate strength and safety of all scaffolding, staging and hoisting equipment, temporary shoring, bracing, and tying.
 - (4) protect adjoining private or public property.
 - (5) provide barricades, temporary fences, and covered walkways required by prudent construction practices, Laws and/or the Contract Documents.
 - (6) furnish approved hard hats and other personal protective equipment, furnish approved first aid supplies, furnish the name of the first aid attendant, and maintain a posted list of emergency facilities.
 - (7) provide proper means of access to property where the existing access is cut off by the Contractor, including maintaining traffic over, through or around the Work included in this contract, with the maximum safety, and practicable convenience to such traffic suspended temporarily.
 - (8) maintain from the beginning of any darkness or twilight through the whole of every night sufficient lights on or near any obstruction to guard or protect travelers from injury from such obstruction.
 - (9) maintain adequate security at the Site so as not to expose the Work, the materials to be incorporated in the Work, DCR's materials stored or otherwise located upon the Site, and surrounding property to vandalism or malicious mischief.
 - (10) provide adequate fire protection procedures during the use of cutting torches, welding equipment, plumbers' torches and other flame and spark producing apparatus.
 - (11) take prompt action to correct any dangerous or hazardous conditions.
- C. Use of Explosives:** The use of explosives will not be permitted in the Work unless specifically authorized in the technical Specifications, Special Conditions and/or Drawings or approved by the DCR in writing. If such approval is given, the Contractor shall comply with all Laws and obtain all permits, approvals, and certificates required in connection with the same and shall exercise best efforts, including but not limited to the employment and supervision of properly qualified personnel, to prevent damage, injuries, and accidents involving said explosives.
- D.** Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of public or private utilities of his/her intention to commence operations affecting such utilities at least seventy-two (72) hours exclusive of Saturdays, Sundays, and legal Holidays in advance of the start of such operations, and the Contractor shall at the same time file a copy of said notice with the DCR.
- E.** When necessary, the Contractor shall cooperate with representatives of public service companies to avoid damage to their structures by furnishing and erecting suitable supports, props, shoring or other means of protection. Fire hydrants adjacent to the work always shall be readily accessible to fire apparatus and no materials or other obstructions shall be placed within a radius of 10 feet of a fire hydrant.
- F.** Although the drawings may indicate the approximate location of existing subsurface utilities in the vicinity of the work, the accuracy and completeness of the information is not guaranteed by the DCR. Before commencing any work, or operations which may endanger or damage any subsurface structures, the Contractor shall carefully locate all such structures and conduct his/her operations in such manner as to avoid damage thereto. He/she shall not interrupt live services until new services have been provided. All abandoned services shall be plugged or otherwise made secure.
- G.** If the Contractor wishes to have any utilities temporarily relocated for his/her convenience, other than those specified by DCR, he/she shall submit such a request in writing to the Project Engineer. If the DCR approves this request, the Contractor shall pay for the cost of the relocation at his/her sole expense.
- H.** Land monuments and property markers shall be carefully protected. If is necessary to remove land monuments and/or property markers to perform the contract Work, the Contractor shall do so only at the DCR's direction and after an authorized agent of the DCR has referenced their location.
- I.** The Contractor shall not injure or remove trees or shrubs without authorization from the DCR.
- J.** Disturbance or damage to any above- or below-ground structures, conduits, cables, or the like, caused by any act of omission, neglect or misconduct in the execution or non-execution of work thereof by the Contractor shall be repaired, and/or replaced by the Contractor to the satisfaction of the DCR and at no additional expense to the DCR.
- K.** Disturbance or damage to any structure shall be replaced or repaired by the Contractor to the satisfaction of the DCR and at no additional expense to the DCR.
- L.** The Contractor shall receive no extra compensation for protection and restoration of property unless said compensation is authorized in writing by the DCR, as specified under Article VI I of the Contract General Conditions.
- M.** The Contractor shall not permit cutting or welding in or immediately adjacent to existing property of the Department of Conservation and Recreation or of anyone else without the DCR's prior approval in each instance.
- N.** The Contractor shall designate by notice to the DCR a responsible member of its organization at the Site whose duties shall include preventing accidents.

O. The Contractor shall submit to the DCR without delay verbal and written reports of all accidents involving bodily injury or property damage arising in connection with the Work.

P. In any emergency affecting the safety of persons or property the Contractor shall immediately act in the exercise of reasonable judgment to prevent threatened damage, injury, or loss. The Contractor shall immediately notify the DCR of such emergency.

16. Environmental Protection

A. The DCR shall secure the required environmental permits required under M.G.L. Chapters 131 and 91, including the National Pollutant Discharges Elimination System (NPDES) Construction General Permit and those issued by the Army Corps of Engineers under Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). The Contractor is obligated to conform to all the requirements of the permits and subsequent requirements issued by the governing agencies.

B. Contractors operating under a DEP permit shall post on the Site a sign in a format consistent with that enclosed.

C. Prevention of Water Pollution:

1. The Contractor shall take such precautions in the conduct of the Work as may be necessary to avoid contaminating water in adjacent watercourses, water resources or wetlands. All earthwork, moving of equipment, water control for excavation or foundation areas, and other operations likely to create silting shall be conducted to avoid pollution of watercourses, water resources and wetlands.

2. Erosion Control: The Contractor shall utilize such methods as may be necessary to effectively prevent erosion and sediment from entering nearby waterways.

3. Control of Surface Water Runoff: The Contractor shall keep the rate of runoff from the Site at a minimum, and control it by constructing diversion ditches, trenches, and berms, and taking any other necessary action to retard and divert runoff to protect watercourses. The Contractor shall inspect said Site controls regularly, after significant storm events (greater than one-half inch over a 24-hour period) and in accordance with a site-specific storm water pollution prevention plan (SWPPP) prepared by the Contractor. The Contractor shall repair any damage to Site controls to prevent discharge of sediments or pollutants.

4. The Contractor shall construct silt retention basins in areas of the Work adjacent to streams, or rivers, as directed by the DCR. These basins shall be removed upon completion of the Work. Water used during the Work which has become contaminated with oil, bitumen, harmful or objectionable chemicals, sewage or other pollutants shall be discharged in accordance with all Laws to avoid affecting nearby waters.

5. Under no circumstances shall the Contractor discharge pollutants into any watercourse, water resource, or wetland. When water from adjacent natural sources is used in the contract work, intake methods shall be such as to avoid contaminating the source of supply.

D. Protection of Land Resources

1. Prevention of Landscape Defacement: The Contractor shall not deface, injure, remove, cut, or destroy trees or shrubs, without authority from the DCR. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically approved by the DCR. Where such activity is permitted, the Contractor shall adequately wrap the tree with burlap or rags over which softwood slats shall be tied. The Contractor shall be responsible for any damage resulting from such use. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by equipment, dumping, or other operations, the Contractor shall protect such trees by placing boards, planks or approved protective fencing around them.

2. Restoration of Landscape Damage: Any trees or other landscape feature scarred or damaged by equipment or operations shall be restored as nearly as possible to the original condition, as approved by DCR. All trimming or pruning shall be performed in an approved manner by licensed arborists with saws or pruning shears. Trimming with axes will not be permitted.

3. Plant Pest Control: If the Work under this contract requires the use of soil moving equipment in an area with plant infestation, the Contractor shall be subject to applicable plant quarantine regulations. In general, these regulations require the thorough cleaning of soil from equipment before such equipment is moved from regulated areas to area's noninfected

E. Noise Control: The Contractor shall use every effort and every means possible to minimize noise caused by his/her operations which the DCR may consider objectionable. Each Contractor shall provide working machinery and equipment designed to operate with the least possible noise, and when gearing is used, such gearing shall be of a

type designed to reduce noise to a minimum. Compressors shall be equipped with silencers on intake lines. All gas or oil operated equipment shall be equipped with silencers or mufflers on intake and exhaust lines. Electricity shall be used for power to reduce noise. Dumping bins, hoppers and trucks used for disposal of excavated materials shall be lined with wood or other sound-deadening material if required. Where required by agencies having jurisdiction, certain noise-producing work may have to be performed during specified periods only.

E. Air Pollution Control: The Contractor shall conduct his/her operations to comply with all Laws pertaining to air pollution, including Section 142B of Chapter 111 of the Massachusetts General Laws.

1. Diesel Equipment Emission Controls

a.) All motor vehicles and construction equipment shall comply with all pertinent local, state, and federal regulations covering exhaust emission controls and safety.

b.) All Contractor and Sub-Contractor diesel-powered non-road construction equipment with engine horsepower (HP) ratings of 50 and above, which are used on the Project Site for a period more than 30 calendar days over the course of the construction period on the Project Site, shall be retrofitted with Emission Control Devices to reduce diesel emissions.

c.) The reduction of emissions of volatile organic compounds (VOCs); carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment shall be accomplished by installing Retrofit Emission Control Devices.

d.) Acceptable Retrofit Emission Control Devices for the Project shall consist of oxidation catalysts that are (1) included on the US Environmental Protection Agency (EPA) *Verified Retrofit Technology List* and/or the California Air Resources Board (CARB) *Currently Verified Technologies List*; and (2) are verified by EPA, CARB, or certified by the manufacturer to provide a minimum emissions reduction of 50 percent for VOCs, 40 percent for CO and 20 percent for PM. Attainment of the required reduction in PM emissions can also be accomplished by using less polluting Clean Fuels. Verified technologies can be identified on the following websites:

EPA: <http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm>

CARB: <http://www.arb.ca.gov/diesel/verdev/verifiedtechnologies/cvt.htm>

e.) The emission control equipment can be procured through the Statewide Contract #VEH71 that has fixed costs associated with retrofitting of diesel emission control devices.

f.) Construction shall not proceed until the Contractor has submitted a certified list of the non-road diesel-powered construction equipment subject to this provision which either are or will be retrofitted with emission control devices. The list shall include (1) the equipment number, type, make, and Contractor/Sub-Contractor name; and the emission control device make, model, and EPA verification number. Contractors shall also submit a receipt or other documentation from a manufacturer or installer that verifies that appropriate equipment has been installed. The Contractor shall also identify any vehicles that will use Clean Fuels. Equipment that has been retrofitted with an emission control device shall be stenciled or otherwise clearly marked as "Low Emission Equipment".

g.) The Contractor shall submit monthly reports, updating the same information stated in Paragraph f above, including the quantity of Clean Fuel utilized. The addition or deletion of non-road diesel equipment shall be indicated in the report.

h.) The Contractor shall use methods to control nuisance odors associated with diesel emissions from construction equipment including but not limited to the following: (1) turning off diesel combustion engines on construction equipment not in active use and on trucks that are idling for five minutes or more; and (2) locating diesel equipment away from the public and sensitive receptors.

i.) All costs associated with implementation of the diesel equipment emissions control shall be borne by the

respective Contractor or subcontractor and included in their cost for performing the work of the Contract.

2. Dust Control.

A. The Contractor is placed on notice that blowing dust from un-stabilized earth areas of the work under his/her control will be considered a nuisance. He/she shall, by spraying with water or by other approved means, dampen the soil to hold down the dust. The use of calcium chloride as a wetting agent will not be permitted. During working hours and before leaving the work for the evening, for weekends, or for a more extended period, the Contractor shall assess the moisture content of the soil and dampen it to the extent necessary to hold down the dust. While work is suspended, he/she shall return to work, if so, directed by the DCR, to maintain the dust control.

17. Debris, Excavated Material and Chemical Waste.

A. The Contractor shall not permit the accumulation of interior or exterior debris. The Contractor shall always keep the Work area clean. Without limitation, garbage shall be removed daily. Where no disposal area is shown on the Drawings, the Contractor shall remove and legally dispose of all materials off land owned by the Commonwealth to a location approved by the DCR. Documentation certifying proper disposal shall be submitted to the DCR.

B. The Contractor shall, at his/her own expense, and in accordance with all Laws, arrange for the waste of materials from excavations that are unacceptable for use in the refill or that are more than the refill materials required, in spoil banks off the lands owned by the Commonwealth of Massachusetts. Materials, if any, which cannot be placed at once in permanent positions may be deposited in storage piles at locations designated, but materials re-excavated from such storage piles shall not again be paid for as excavation.

C. The Contractor shall properly classify and remove debris and waste from the Site and transport and dispose of it, all in accordance with Laws, employing a qualified and properly licensed transporter, at any landfill, disposal or recycling facility licensed under applicable Laws, including without limitation, hazardous materials laws. The Contractor shall make all arrangements and give and obtain all notices, communications, documentation, permits, certificates, and approvals necessary for said disposal from the owner or officials in charge of such landfills, disposal, or recycling facilities. The Contractor shall bear all fees and costs in connection with such classification, removal, transportation, disposal, and storage, except as otherwise specifically provided or required by the Special Conditions or other Contract Document. The Contractor shall not permit any storage of debris or waste except in accordance with Laws.

D. The Contractor shall not permit any open fire on the Site.

E. Chemical Waste: Chemical waste shall be identified and labeled properly, stored in appropriate Department of Transportation approved containers in a secure location, removed from the Site, and disposed of not less frequently than monthly unless more frequently required by Laws, including without limitation hazardous materials laws, or by the Special Conditions or Specifications. Disposal of chemical waste shall be performed in accordance with requirements of the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP). Stockpiles of contaminated soils will be placed on a protective surface and covered to prevent migration or erosive loss by wind or water. Fueling and lubricating of vehicles and equipment shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants shall be disposed of in accordance with procedures meeting all applicable Laws. The Contractor shall immediately notify the DCR of any hazardous materials release large enough to require reporting under applicable Laws. The Contractor shall be responsible for immediately containing and cleaning up in accordance with Laws any oil or hazardous materials releases resulting from his/her operations. Any costs incurred in cleaning up any such releases shall be borne by the Contractor.

18. Nuisances.

The Contractor shall strictly prohibit and take all necessary measures to prevent the committing of nuisances on the land of the Commonwealth and adjacent properties.

19. Weather Protection (M.G.L. c. 149, sec. 44G and 44F(1)).

A. For all building projects, the Contractor shall furnish and install "weather protection," which means temporary protection of that Work adversely affected by moisture, wind and cold. Weather protection shall be achieved by covering, enclosing and/or heating working areas such that a minimum temperature of 40 degrees Fahrenheit is maintained at the working surface during the months of November through March to permit construction to be carried on during such period in accordance with the Progress Schedule. After the building or portion thereof is completely enclosed by either permanent

construction or substantial temporary materials having a resistance comparable to the specified permanent construction, the Contractor shall provide heat therein of not less than 55 degrees Fahrenheit nor more than 75 degrees Fahrenheit. The foregoing provisions do not supersede any specific requirements for methods of construction, curing of materials and the like. Concrete, masonry, plaster, and all other materials that require special considerations in temperatures below 40 degrees Fahrenheit shall be installed, applied, and cured in accordance with the specific requirements for cold weather protection as defined in the project specifications.

B. The general contractor may, with the approval of the Engineer, elect to utilize the permanent heating system for temporary heat after the building is enclosed and after it has been tested and ready to operate. It shall, however, be his responsibility to thoroughly clean and restore to first-class condition any portion of the permanent heating system used for heating during construction to the satisfaction of the Engineer.

C. The Contractor shall furnish and install one thermometer for every 2,000 square feet of floor space or fraction thereof.

D. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate fire protection devices. Approved methods of heating should also provide for adequate ventilation to prevent exposing people and materials to carbon monoxide, carbon dioxide and other noxious fumes.

E. Within 30 calendar days after the award of this contract, the general contractor shall submit in writing to the Engineer three (3) copies of his proposed methods for "Weather Protection" for approval.

F. The Contractor shall give adequate notification to the Engineer and all subcontractors prior to the erection and removal of temporary protective enclosures.

G. Such weather protection shall be consistent with the Progress Schedule, shall permit the continuous progress of the Work necessary to maintain an orderly and efficient sequence of construction operations and shall meet such additional requirements as may be specified by the Special Conditions or Specifications.

20. Furnishings and Equipment.

When, in the opinion of the DCR, any portion of the Work is in a reasonable condition to receive fittings, furniture, or other property of the Department of Conservation and Recreation not covered by this Contract, the Contractor shall allow the DCR to bring such fittings, furniture, and/or other property into such portions of the Work and shall provide all reasonable facilities and protection thereof. No such occupancy shall be construed as interfering with the provisions relating to time of completion, or as constituting an acceptance of the whole or any part of the Work. Any furniture or fittings so installed shall be placed in the Work at the risk of the DCR except that the Contractor shall be liable for damages or losses to such furniture or fittings to the extent such damages or losses arise in whole or in part from the negligence or intentional misconduct of Contractor, Subcontractors, their agents and/or employees, or anyone for whose acts the Contractor is responsible.

21. Form for Sub-contract.

The Contractor when subcontracting with sub-bidders filed pursuant to M.G.L. c. 149, sec. 44F shall use the form for sub-Contract in M.G.L. c. 149, sec. 44F(4)(c). The Contractor shall not interpret paragraph 3 of the statutory form of Subcontract to require such sub-bidders to provide insurance with limits higher than the limits that are required by the Contract Documents, if the term "Contractor" refers to the sub-bidder and that the term "Contract Price" refers to the sub-bidder's price stated in paragraph 1 of the statutory form of Subcontract.

22. Sales Tax Exemption and Other Taxes.

All building materials and supplies as well as the rental charges for construction vehicles, equipment and machinery rented exclusively for use on the Site, or while being used exclusively for the transportation of materials for the Work are entitled to an exemption from sales taxes under M.G.L. c. 64H, sec. 6(f). The Contractor shall take all action required to obtain the benefit of such sales tax exemption. The Contractor shall bear the cost of any sales taxes that the Contractor incurs in connection with the Work and the DCR shall not reimburse the Contractor for any such taxes. The exemption number assigned to the Contractor as an exempt purchaser shall be provided to the Contractor by the DCR upon the written request of the Contractor.

23. Final Cleaning.

At the completion of the Work, the Contractor shall remove all waste materials, rubbish, tools, equipment, machinery,

and surplus materials, and professionally clean all sight-exposed surfaces so that the Work is clean and ready for occupancy and/or use. After installation of DCR furniture, telephones, and equipment, the Contractor shall provide such additional cleaning as may be necessary to remove any soil resulting from installation of such furniture, telephones, and equipment. The costs of the required cleaning are included in the Contract price.

All permanent drainage structures such as catch basins, permanent detention or retention basins, drainage conveyances, piping, sumps, and particle separators will be cleaned of sediments and debris prior to acceptance of the Work. Any sediments or debris accumulated during construction shall be removed and disposed in accordance with local and state requirements.

24. Maintenance Data.

Subject to such additional requirements as may be provided in the Special Conditions or Specifications, the Contractor shall compile 3 complete and identical binders of operating and maintenance data for the entire Work. The Contractor shall submit record maintenance data to the DCR for approval and shall instruct and train the DCR's personnel in proper inspection and maintenance procedures.

25. Drainage Specifications.

Subject to such additional requirements as may be provided in the Special Conditions or Specifications, where construction involves replacement or construction of new storm water drainage systems including but not limited to catch basins, roof drains, recharge to groundwater systems and outfall structures, the Contractor shall provide drawings and electronic records in a form acceptable to the DCR that provides specifications and a site plan that identifies locations of the drainage system components and cleanout, if applicable.

26. Closeout Procedures.

The Contractor shall take all actions and submit all items required for Final Acceptance as specified in the Contract Documents.

27. Risk of Loss.

The Contractor shall bear all risk of loss to the Work during the term of the Contract except for any portion of the Work as to which the DCR has given final acceptance. Nothing herein shall limit the Contractor's responsibilities under Article IX or XV of these General Conditions of the Contract.

28. Photographs.

A. At the request of the DCR, the Contractor shall furnish the DCR suitable 4" X 6" color photographs and/or digital image files of the construction area, and any related work areas.

B. If the DCR requires the Contractor to provide photographs of the Work, the areas to be photographed and the locational reference point from which they are to be taken will be designated by the DCR, and shall be taken according to the following schedule:

- a. Before construction operations have been started.
- b. Each month during the performance of the Work.
- c. After construction has been completed.

C. Each photograph shall have permanently written on its face a legible description or title indicating date, location, direction from which taken, project title and item of work photographed.

D. Upon completion of all work under this contract, the Contractor shall deliver all negatives, clearly identified, to the DCR. Photographs will be placed in acetate sleeves and bound in three booklet form.

E. The cost of furnishing photographs shall be included in the prices bid for the various items scheduled in the Proposal.

ARTICLE V: MATERIALS AND EQUIPMENT

1. Materials Generally.

A. Unless otherwise specifically provided in the Contract Documents, the Contractor shall provide and pay for materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether incorporated or to be incorporated in the Work.

B. Materials and equipment to be installed as part of the Work (both or either of which are hereinafter referred to

as "materials") shall be new, unused, of recent manufacture, assembled, and used in accordance with the best construction practices. The Contractor shall inform himself/herself as to, and shall comply with, the provisions of M.G.L. c. 7, sec. 23A, as amended, and shall abide by the same and all applicable rules, regulations, and orders made thereunder in relation to the purchase of supplies and materials in the execution of the Work, including the provisions of M.G.L. c. 7, sec. 22, paragraph 17, which provides that there be *"a preference in the purchase of supplies and materials, other considerations being equal, in favor, first, of supplies and materials manufactured and sold within the Commonwealth, and, second, of supplies and materials manufactured and sold elsewhere within the United States."*

C. All materials furnished by the DCR to the Contractor for installation in the work will be delivered by freight train, truck, or other means of common carrier to the nearest convenient public railroad siding, freight station, trucking terminal or such other designated delivery point of which he will receive due notification. The Contractor, at his/her own expense, shall do all handling and conveying of such materials at and from the noted deliver site. He shall unload and remove them promptly from the cars, trucks, or terminals upon notification of their arrival and he shall be responsible for any demurrage, delay charges, damage done or loss of materials from the time of delivery to the final acceptance of the work. Materials previously delivered shall be turned over to the Contractor as soon as possible after the date ordered to begin work. He shall make a complete inventory with the Resident Engineer as to content and condition; thereafter he shall be responsible for the care, custody, and handling until the final acceptance of the work.

2. Shop Drawings, Product Data, and Samples.

A. The Contractor shall furnish to the Project Engineer all samples of the materials to be used in the execution of the Work as required by the Contract Documents. The Contractor shall furnish to the DCR in a timely manner all coordination Drawings, shop details, Shop Drawings, and setting diagrams which may be necessary for acquiring and installing materials. These shall be reviewed as required by the DCR. A minimum of six (6) copies shall be submitted for final approval, one of which shall be returned to the Contractor, one given to the Resident Engineer, and four maintained by the DCR. The inspection and approval by the DCR of Shop Drawings, etc. shall be general and shall in no way relieve the Contractor from responsibility for proper fitting, coordinating, construction, and construction sequencing. The Contractor shall furnish to the DCR such information and vouchers relative to the Work, the materials therefore, and the persons employed thereon, as the DCR shall from time-to-time request.

B. Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. The purpose of their submission is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

C. The Contractor shall review, approve, and submit to the DCR, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the DCR or of separate contractors. Submittals made by the Contractor which are not required by the Contract Documents, or which do not comply with the Contract Documents may be returned without action. The Contractor's attention is directed to the provisions of Section 4 of this Article V and to the Specifications.

D. The Contractor shall prepare and keep current for the DCR's approval a schedule of submittals which is coordinated with the Progress Schedule and allows the DCR reasonable time to review submittals.

E. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved by the DCR. Such Work shall be in accordance with Approved submittals.

F. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements, and field construction criteria related thereto and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

G. The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the DCR's approval of Shop Drawings, Product Data, Samples, or similar submittals unless the Contractor has specifically informed the DCR in writing of such deviation at the time of submittal and the DCR has given explicit written

approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the DCR's actions.

H. The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the DCR on previous submittals.

I. Informational submittals upon which the DCR is not expected to take responsive action may be so identified in the Contract Documents.

J. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, such certification must be stamped by a registered Massachusetts professional in the discipline required. The DCR shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

K. Materials furnished or used or employed under the Contract must be equal in quality to the samples furnished and be satisfactory to the DCR.

3. Tests.

A. Any material to be used in the Work may be tested or inspected at any time, on or off Site, by or under direction of the DCR, and may be rejected if it fails to comply with specified tests. The Contractor shall test all materials unless specified otherwise in the Special Conditions or Specifications. The Contractor shall also pay for all testing of specified material unless specified otherwise in the Special Conditions or Specifications. If the Contractor requests permission to use a material that was not specified, then the Contractor in all cases shall pay for such testing. The cost of testing of materials that fail the testing criteria shall be borne by the Contractor

B. The Contractor shall notify the DCR of the proposed sources of materials in time to permit all required testing and inspection before the material is needed for incorporation into the Work. The Contractor shall have no claim arising from the Contractor's failure to designate the proposed source or to order the material in time for adequate testing and inspection. Necessary arrangements shall be made to permit the DCR to make factory, shop or other inspection of materials or equipment ordered for the Work in the process of manufacture or fabrication, as required by the Contract Documents. The DCR will not assume any obligation for the sampling and testing of materials other than on the Site, unless so required by the Specifications.

C. Where tests of materials will be made by the DCR or under its direction, the Contractor or his/her suppliers shall furnish such facilities as the DCR may require for collecting and forwarding samples and shall not make use of, nor incorporate into the Work, any material represented by the samples until the required tests have been made and the material accepted, unless otherwise directed. The Contractor in all cases shall furnish the required samples without charge. In the event of failure of materials to meet the Contract Documents, any retesting of new materials or of the same materials after reworking, shall be paid for by the Contractor.

D. The testing of the Work shall not relieve the Contractor of any of his/her obligations to fulfill the terms of the Contract as herein prescribed by the Contract Documents. Failure to reject any defective work or materials shall in no way prevent later rejection when such defect is discovered, notwithstanding that such defective work or materials had been previously overlooked or misjudged by the DCR and accepted or estimated for payment, nor shall such obligate the DCR to make final acceptance thereof. If sampling and testing reveal that the material is unsatisfactory, it will then be the responsibility of the Contractor to remove it from the Work, replace it, or blend it with such other material so that an acceptable material will be produced. The removal, replacement and blending of such material shall be done by the Contractor without additional compensation.

4. "Or Equal" Submissions.

A. Where products or materials are prescribed by manufacturer name, trade name, or catalog reference, the words "or Approved equal" shall be understood to follow. An item shall be considered equal to the item so named or described if in the opinion of the DCR (a) it is at least equal in quality, durability, appearance, strength, and design, (b) it performs at least equally the function imposed in the general design for the Work, and (c) it conforms substantially, even with deviations, to the detailed requirements for the items as indicated by the Specifications. Any structural or mechanical changes made necessary to accommodate products or materials substituted as an "or equal" shall be at the expense of the Contractor. If the cost of the material substituted as an "or equal" is less than the cost of the material specified, such savings in cost shall be credited to the DCR and deducted from the price. "Approved equal" shall mean an item with respect to which the DCR shall have issued a written statement to the Contractor to the effect that the item is, in the DCR's opinion, equal within the meaning of this paragraph to that prescribed in the Contract Documents.

B. The Contractor shall be responsible for providing the DCR with any information and test results that the DCR reasonably requires to determine whether a material is equal to a material named or described in the Contract Documents.

C. The Contractor shall make all requests for substitution of a material named or described in the Contract Documents in writing, and at least thirty (30) days prior to the date the materials will be used in the Work, or immediately upon becoming aware of the following exigencies: (1) the non-availability of the specified material, (2) delay of the delivery of the specified material that will preclude the completion of the Work or any part thereof within the time specified in the Contract or (3) unforeseen field conditions that necessitate the substitution of the specified material. In no event shall the Contractor maintain a claim for delays based upon the DCR's review of such substituted materials if the Contractor failed to submit a written request for such substitution in accordance with the provisions of this paragraph. A written request for a material substitution due to an exigency set forth above shall be accompanied with documentation of the exigency, including but not limited to, a photocopy of a letter from the supplier or manufacturer stating that he/she is unable to furnish the specified materials and the reasons that he/she is unable to furnish the materials, as required by the DCR. If the Contractor's proposed substitution due to an exigency is declined, the DCR shall, at its discretion, specify an "or equal" substitution.

D. The Contractor shall have the burden of proof with respect to any claimed increases in the Contract Price resulting from the improper rejection by the DCR of any material proposed by the Contractor as an equal. No increase in the Contract Price shall be permitted unless the Contractor submits documentary evidence sufficient to prove to the reasonable satisfaction of the DCR that the rejection increased the Contractor's costs over the costs provided for in the Bid pricing documents, net of all savings the Contractor obtained by substituting other "or equal" items. The Contractor shall submit copies of all pricing materials, calculations, plans, Specifications, Drawings, and other design documents that the DCR deems necessary or desirable to evidence such increased costs. In calculating the Contractor's increased costs, a deduction shall be made for all costs that the Contractor would have incurred making structural or mechanical changes to include within the Work the item later found to have been improperly rejected.

5. Delivery and Storage of Materials: Inspection.

A. Materials and equipment shall be progressively delivered to the Site so that there will be neither delay in the progress of the Work nor an undue accumulation of materials that are not to be used within a reasonable time, and stored so that their security, quality, and fitness of the materials for the Work is preserved.

B. Vehicle Weight Limits

1. The Contractor's attention is directed to Chapter 90, Section 19A of the General Laws as amended concerning the weight limits for construction type motor vehicles.
2. No materials supplied for the project shall be accepted in vehicles whose gross weight exceed the legal load limits as determined by the regulatory agencies of the Commonwealth and Federal Government
3. Weight slips that indicate the load exceeding the legal load limit will not be countersigned by the DCR.

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

D. Necessary arrangements shall be made to permit the DCR to perform all required inspection and testing of materials or equipment ordered for the Work at the factory or shop during the process of manufacture or fabrication, or in storage on or off Site. The Contractor shall have no claims because of his/her failure to designate the proposed source of the material in time for adequate testing and inspection.

E. Materials stored off Site shall be insured and stored at the expense of the Contractor to guarantee the preservation of their security, quality, and fitness for the Work. Without derogating from the Contractor's responsibilities in the previous sentence, when necessary to avoid deterioration or damage, material (on or off Site) shall be placed on wooden platforms or other hard clean surfaces and not on the ground and shall be properly protected.

F. Expenses for inspection of material by DCR personnel including travel, quarters, and subsistence shall be borne by the Contractor requesting the inspection of material stored outside the Commonwealth of Massachusetts as part of the Contract Price. The policy of the DCR precludes the payment for material stored outside the boundaries of Massachusetts except in extremely limited circumstances with the express written consent of the DCR. If the Contractor requests an inspection of material stored outside the Commonwealth of Massachusetts, the DCR will initially pay for all expenses of inspecting the material incurred by DCR's personnel including travel, quarters, and subsistence. The DCR will then give Contractor an invoice for those costs and the Contractor shall submit a credit Change Order for those expenses.

G. Stored materials either at the Site or at some other location agreed upon in writing shall be so located as to facilitate prompt inspection and even though approved before storage, may again be inspected prior to their use in the Work.

H. Where no inspection of materials is arranged by the DCR and before such materials are incorporated into the work, the Contractor shall be required to submit to the DCR for approval, three copies of the Manufacturer's or Supplier's statement for each kind of material furnished, which shall contain the following information:

1. Work for which the material is consigned.
2. Name of the Contractor to which the material is supplied.
3. Description of material supplied.
4. Quantity of material supplied.
5. Means of identifying the consignment, such as label, marking, seal number, etc.
6. Date and method of shipment.
7. Statement to the effect that the material has been tested and found in conformance with the Contract Documents.
8. Results of all required tests, or in lieu of said results, the Manufacturer's, or Supplier's guarantee that he/she shall maintain said results, and make them available to the DCR for a period of not less than three years from the date of final acceptance of final payment by the Commonwealth.
9. Signature of a person duly authorized to bind the Manufacturer or Supplier.

I. All storage sites shall be restored to their original condition by the Contractor at the Contractor's expense. This shall not apply to the stripping and storing of topsoil, or to other materials salvaged from the work.

J. The Contractor shall take charge of and be liable for any loss of or injury to the materials for his/her use delivered to or in the vicinity of the place where the Work is being done, whether furnished by the DCR or otherwise. The Contractor shall notify the DCR as soon as any such materials are so delivered, allow them to be examined by the DCR, and furnish workers to assist therewith.

K. Private property shall not be used for storage purpose without the written permission of the property owner, and if requested by the DCR copies of such written permission shall be furnished by the Contractor.

6. Defective, Damaged, or Deteriorated Materials and Rejection Thereof.

The DCR may reject materials if the DCR reasonably determines that such materials do not conform to the Contract Documents in any manner, including but not limited to materials that have become damaged or deteriorated from improper storage whether such materials have previously been accepted. The Contractor at its own expense shall remove rejected materials from the Work. No rejected material, the defects of which have been subsequently corrected, shall be used except with the written permission of the DCR. Should the Contractor fail to remove rejected material within a reasonable time, the DCR may, in addition to any other available remedies, remove and/or replace the rejected material, and deduct the cost of such removal and/or replacement from any moneys due or to become due the Contractor. No extra time shall be allowed for completion of Work by reason of such rejection. The inspection of the Work shall not relieve the Contractor of any of its obligations herein prescribed, and any defective Work shall be corrected. Work not conforming to the Contract Documents may be rejected notwithstanding that such Work and materials have been previously overlooked or misjudged by the DCR and accepted for payment. If the Work or any part thereof shall be found defective at any time before Final Acceptance of the whole Work, the Contractor shall forthwith make good such defect in a manner satisfactory to the DCR. Nothing in the Contract shall be construed as vesting in the Contractor any property rights in the materials used after they have been attached or affixed to the Work or the Site; but all such materials shall upon being so attached or affixed become a property of the DCR.

7. Measurement

A. The method of measurement for materials necessary for the proper execution of the Work is set forth at the end of each Section of these Specifications. The computations to be used in determination of quantities of material furnished and of work performed under the Contract shall be selected by the DCR.

B. For the estimating of quantities in which the computations or areas by analytic and geometric methods would be comparatively laborious, it is stipulated and agreed that the planimeter shall be considered an instrument of precision adapted to the measurement of such area.

C. To aid the Resident Engineer in determining the quantities and weights of cement and other materials to be paid for, the Contractor shall, whenever so required, give him access to the proper invoices, bills of lading, etc., and shall provide scales and assistance for weighing, or assistance for measuring, any of the materials.

D. All measurements shall be confirmed by the DCR as they are made to determine the quantities of the various items of work performed. All measurements shall be made according to the United States Standard Units of Measurement.

E. Unless otherwise specified, longitudinal measurements for area computations will be made horizontally. Unless otherwise specified transverse measures for area computations will be the dimensions shown on the Drawings or in writing by the DCR.

F. All items which are measured by the linear foot, including, but not limited to pipe, culverts, guardrail, curbing, will be measured parallel to the base or foundation upon which such structures are placed, unless otherwise shown on the Drawings.

G. In computing volumes of excavation, the average end area method, or other methods acceptable to the DCR will be used.

H. A sworn weigher shall weigh all materials required to be weighed. The weighing of such materials may be witnessed by the DCR.

I. If materials are shipped by rail or trucks, the car weights or quarry weights may be accepted. Weight slips shall be provided for each shipment of material weighed. Each weight slip shall be signed by the sworn weigher, and countersigned, on delivery, by the DCR. Material listed on weight slips that are not countersigned by the DCR shall not be included for payment under the Contract.

J. When requested by the Contractor and approved by the DCR in writing, material specified to be measured in weight may be weighed and converted to volume measurement for payment purposes.

ARTICLE VI: PROSECUTION AND PROGRESS

1. Beginning, Progress Schedule, and Completion of Work.

A. The Contract time shall commence the work upon the date specified in the Notice to Proceed. The Contractor shall begin Work at the Site within ten (10) days of said date unless otherwise ordered in writing by the DCR.

B. Within seven (7) days after the issuance of the Notice to Proceed, Saturdays, Sundays and legal holidays excluded, the Contractor shall submit to the DCR a progress schedule for the term of the Contract as required by the Contract Documents, showing in detail his/her proposed progress for the construction of the various parts of the Work and the proposed times for receiving required materials. Upon approval by the DCR, said schedule shall constitute the Progress Schedule. The Contractor shall at the end of each month, or more often if required, furnish to the DCR a schedule meeting the requirements of the Specifications showing the actual progress of the parts of the Work in comparison with the Progress Schedule.

C. Time is of the essence of this Contract. The Work shall be completed within the time specified in Article 2 of the Department of Conservation and Recreation - Contractor Agreement. Should the Contractor require additional time to complete the Work, the Contractor shall document the reasons therefor and submit a written request for an extension of time within 20 days of the occurrence of the event alleged to be the cause of the delay, as provided in this Article and in Article VII of these General Conditions of the Contract. Failure to submit said written request within the time required by the preceding sentence shall preclude the Contractor from subsequently claiming any time extension due to said delay.

D. If, in the opinion of the DCR, the Contractor fails to comply with the construction schedule as set forth in the Contractor's bid or the Project specifications, the DCR may give the Contractor a notice specifying the time limits and performance standards that the Contractor is failing to meet whereupon (1) the Contractor shall, if the notice requires, discontinue all or any portion of the Work (which discontinuance shall neither terminate the Contract nor give the Contractor any claim for an increase in the Contract Price, damages, or an extension of any completion deadlines); or (2) at Contractor's sole cost increase the work force, equipment and plant, or any of them, employed on the whole or any part of the Work, to the extent required by such notice, and employ the same from day to day until the completion of the Work or such part thereof, or until the failure regarding the rate of progress, in the opinion of the DCR, shall have been sufficiently corrected.

E. If, in the opinion of the DCR, the Contractor fails to comply with the construction schedule, and whether the DCR shall have given the Contractor a notice described in D above, the DCR may (but shall not be required to) give the Contractor notice of such failure and five (5) days to cure the same. Unless the Contractor shall within that five days take all necessary steps to do so (including, if the DCR requires, increasing its forces, equipment and plant) and continue to do so until in the opinion of the DCR the failure is corrected, the DCR may at the Contractor's expense and without terminating this Contract take exclusive or joint possession of all or a portion of the Site and employ and direct the labors of existing or such additional forces, equipment and plant as may in the DCR's opinion be necessary to insure the completion of the Work or such part thereof within the time specified in the Contract Documents or at the earliest possible date thereafter. The DCR may exercise its rights under this Article at any time and from time to time without waiving any of its rights under this Contract, at law or in equity, including, without limitation, the right to deem this Contract terminated or to order the Contractor to discontinue the Work at any time thereafter. The Contractor shall continue to perform the remaining Work under this Contract even if the DCR elects to have another contractor perform a portion of the Work under this Article.

F. The DCR shall deduct the cost of any actions the DCR takes under this Article from any amount then due or which might have become due to the Contractor under this Contract had the Contractor performed as required. On demand, the Contractor shall pay the DCR any amount by which the cost of completing all or any portion of the Work exceeds the amount attributable to that Work under the Contract Documents. The DCR's sole goal will be to complete the Work that it elects to complete within the time limits stated in the Contract or soon thereafter. Consequently, the DCR shall have no obligation to obtain competitive bids or the lowest cost for completing the Work or any part thereof, except when it is required by law. The DCR's election to complete all or part of the Work shall not release the Contractor from any liability for failure to complete the Work as the Contract Documents require and shall not entitle the Contractor to a claim for an increase in the Contract Price or an extension of the time for completing the Work. If the cost that the DCR incurs in completing all or any portion of the Work is less than the amount that the Contract Documents attribute to that Work, the DCR will pay or credit the difference to the Contractor, less any other costs and expenses that the DCR incurs, including the cost of supervision, and attorneys' fees and costs.

2. Failure to Complete Work on Time - Liquidated Damages.

A. If liquidated damages are specified in the Department of Conservation and Recreation - Contractor Agreement, the DCR has determined that its damages because of Contractor's failure to complete the Work fully within the time specified will be difficult or impracticable to ascertain. Accordingly, if the Work is not completed to such point by the date specified in this Contract, the Contractor shall pay to the DCR the sum designated as liquidated damages in the Contract for each calendar day that the Contractor is in default in completing the Work to such point. Such moneys shall be paid as liquidated damages, not as a penalty, to cover losses and expenses to the DCR resulting solely from the fact that the Work is not completed on time.

B. Similarly, if the Contract states that by a specified date a designated portion of the Work shall be fully completed, and if such portion has not been prosecuted to such point by said date, the Contractor shall pay to the DCR the sum designated in the Contract for each calendar day that the Contractor is in default in completing such portion of the Work to such point. Such moneys shall also be paid as liquidated damages, not as a penalty, to cover losses and expenses to the Department of Conservation and Recreation resulting solely from the fact that the Work is not completed on time.

C. The DCR may recover such liquidated damages by deducting the amount thereof from any moneys due or that might become due the Contractor, and if such moneys shall be insufficient to cover the liquidated damages, then the Contractor or the Surety shall pay to the DCR the amount due.

D. Permitting the Contractor to continue and finish the Work or any portion of it after the time fixed in the Contract for its completion shall not be deemed as a waiver of any of the DCR's rights hereunder, at law or in

equity.

E. Liquidated damages or a portion thereof may be waived by the DCR if the Contractor submits evidence satisfactory to the DCR that the delay was caused solely by conditions beyond the control of the Contractor and that the DCR has not suffered any damages because of said delay.

F. Failure by the DCR to specify a sum as liquidated damages in the Department of Conservation and Recreation - Contractor Agreement, or the insertion of "N/A" or "none" in the space provided therein for liquidated damages, shall not be deemed a waiver of the DCR's right to recover actual damages arising from the Contractor's failure to complete the Work on time.

3. Delays: Statutory Provisions (M.G.L. c. 30, sec. 39O).

A. Notwithstanding any provision of this Contract to the contrary, except as otherwise provided by law as set forth in paragraph B below, the Contractor shall not be entitled to increase the Contract Price or to receive damages on account of any hindrances or delays, avoidable or unavoidable; but if any delay is caused in the opinion of the DCR, the Contractor shall be entitled to an extension of time. The length of the extension shall be sufficient in the opinion of the DCR for the Contractor to complete the Work. Although no delay shall increase the Contract Price, the DCR may require that any change in the date by which the Contractor must complete all or any part of the Work be processed on a Change Order form.

B. If a suspension, delay, interruption or failure to act of the DCR increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the Contractor with respect to such increase as the Contractor shall have against the DCR by virtue of (a) and (b) of M.G.L. c. 30, s. 39O set forth below, but nothing in provisions (a) and (b) shall alter any other rights which the Contractor or the subcontractor may have against each other. As used in the statutory language of (a) and (b) below, "contract" means this Contract, "general contractor" means the Contractor and "awarding authority" means the DCR:

"(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided, however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim."

4. Occupancy and/or Use of Project Prior to Final Acceptance.

A. The Contractor agrees to the occupancy and/or use of the Project or any portion thereof before Final Acceptance of the Work by the DCR.

B. The DCR will cooperate with the Contractor with respect to the completion of the Work by taking such reasonable steps as may be possible to avoid interference with the Contractor's Work if they do not interfere with the proper functioning of the facility.

C. The Contractor shall not be responsible for wear and tear or damage resulting solely from temporary occupancy.

D. Occupancy and/or use of any part of the Work prior to Final Acceptance by the DCR shall not relieve the Contractor from maintaining the required payment and performance bonds and insurance (to the extent that insurance is required to be maintained after Substantial Completion) required by this Contract.

5. Substantial Completion – Punch List.

A. When the Work, or portion thereof which the DCR agrees to accept separately has reached the state of Substantial Completion as shown on an Approved payment request, the Contractor shall develop, with the participation of the DCR, the Punch List identifying those items of unfinished or unacceptable Work that remain to be performed or corrected under the Contract.

B. Before the Work shall be deemed completed to the point where it is ready for the issuance of Final Acceptance, the Contractor shall:

- (1) Provide Contractor's proposed Punch List containing a statement of the reason for each item listed thereon.
- (2) Advise the DCR of proposed changes in insurance in accordance with the provisions of this Contract, and provide to the DCR evidence of the Contractor's Completed Operations insurance coverage to the extent required by the Contract Documents.
- (3) Execute and submit a notarized warranty on a form provided by the DCR meeting the requirements of Article IX of these General Conditions of the Contract, to commence upon the date of the Certificate of Final Acceptance, unless otherwise provided in the Certificate of Final Acceptance.
- (4) Submit signed special warranties and warranties of longer than one year as required by the Contract Documents.
- (5) Submit signed maintenance agreements for all portions of the Work specified to receive maintenance after the issuance of the Certificate of Final Acceptance.
- (6) Submit all preliminary record Drawings to the DCR and documents and framed data in the forms required by the Contract Documents.
- (7) Complete all items required to be completed by the Department of Public Safety and obtain a Certificate of Occupancy from the Department of Public Safety and similar releases which permit the full and unrestricted use of the areas claimed to be ready for occupancy.
- (8) Deliver specified maintenance stocks of materials, required spare parts, and all special tools furnished by manufacturers to persons designated by the DCR and obtain written receipts for same.
- (9) Make final changes of lock cylinders or cores and advise the DCR of the change of project security responsibility.
- (10) Complete start-up of systems, and instruct DCR personnel on proper operation and routine maintenance of all systems and equipment.
- (11) Remove all remaining temporary facilities that are no longer needed, surplus materials, and debris; (the Contractor shall not remove construction offices and trailers without the prior Approval of the DCR).
- (12) Submit final utility meter readings and similar information and advise the DCR of the change of responsibility for utility charges and payments upon occupancy and/or use,
- (13) Complete final clean-up of all Work, restoration of damaged land and property, including finishes, and replacement of all damaged and broken glass not listed on the Contractor's Punch List.
- (14) Complete such other items as may be called for in the Special Conditions, if any, or Specifications.

C. After completing the items specified in subsection A above, the Contractor shall make a written request for the DCR's inspection for a Certificate of Final Acceptance in accordance with the Contract Documents. The DCR shall review the submittals and the Work and shall either 1) sign a Certificate of Final Acceptance or 2) notify the Contractor of incomplete and/or incorrect Work that must be completed and corrected prior to the issuance of the Certificate of Final Acceptance. The DCR shall notify the Contractor of any additions to the Punch List. In connection with the execution of the Certificate of Final Acceptance, the DCR shall assign dollar values to each item on the Punch List. Failure to include any incomplete or defective item on the Punch List shall not relieve the Contractor of the obligation to complete all Work in accordance with the Contract Documents.

6. Final Acceptance of the Work.

A. Prerequisites for Final Acceptance. After the Contractor has completed all the Work required by this Contract, including Change Orders and Punch List Items, the Contractor shall submit the following completed items to the DCR together with such additional items as may be specified in the Contract Documents:

- (1) A final request for payment showing a final accounting of all changes in the Work.
- (2) Certification and satisfactory evidence that all taxes, fees, and similar obligations have been paid.
- (3) Consent of the Surety to Final Payment executed by applicable bonding companies.
- (4) Certified copy of the Punch List stating that the Contractor has completed or corrected every item listed.
- (5) Evidence of the Contractor's continuing Completed Operations Insurance coverage to the extent required by the Contract Documents.
- (6) All final record Drawings and documents in the forms specified by the Contract Documents.
- (7) A notarized certification that all purchases made under the tax exemption certificate were legitimate and entitled to exemption.

(8) Written certifications from the Department of Public Safety and/or the DCR, where required, to the effect that: a) the Work has been inspected for compliance with the Contract Documents and has satisfied the Department of Public Safety; b) all equipment and systems included in the Work have been tested in the presence of the DCR and are operational and satisfactory; c) the Work is completed and ready for final inspection.

(9) Such other items as may be required by the Contract Documents.

B. Reinspection; Final Acceptance. After notification from the Contractor that all remaining contract exceptions, omissions, and incompleteness have been completed (except for the Contractor's continuing warranty, insurance, indemnification, and such other obligations as are intended by the terms of the Contract Documents to extend beyond the date of Final Acceptance), the DCR shall inspect the Work to verify the completion of the same. If the Work is satisfactory, the DCR shall prepare a Certificate of Final Acceptance or shall notify Contractor of items which remain to be completed prior to Final Acceptance.

7. One-Year Warranty Repair List and Inspection.

Approximately 30 days prior to the expiration of the comprehensive one-year warranty period, the Contractor shall schedule an appointment with the DCR for a re-inspection of the Work with the DCR and shall thereafter inspect the Work at the time scheduled. Based on this inspection and on prior inspections, the DCR shall issue a "Warranty Repair List" of items to be corrected by the Contractor. The Contractor shall make the repairs and/or replacements listed within 30 days of the issuance of the Warranty Repair List unless otherwise agreed by the DCR in writing.

ARTICLE VII: CHANGES IN THE WORK

1. Change Orders Generally.

A. The DCR may, pursuant to the provisions of M.G.L. c. 30, sec. 39K, authorize in writing, alterations in the line, grade, plans, form, dimensions or materials of the work, or any part thereof, either before, or after the commencement of construction. If such alterations diminish or increase the quantity included to be done and paid for at a unit price, or work substituted for the work specified is of a different cost and quality, the parties shall be governed by the aforesaid provisions of Law. No changes in the Work shall be made in absence of a Change Order defined in Article I of these General Conditions of the Contract, directing the Contractor to perform such changes. A request for a change in the provisions of this Contract may be submitted to the DCR by the Contractor, Project Engineer or Resident Engineer. The request must be made in writing and in accordance with the provisions of this Contract, Laws, and the procedures of the DCR. The DCR reserves the right to increase or decrease quantities, to eliminate portions of the work or add work of similar nature, and to direct the commencement and order of prosecution of various portions of the work.

B. A Change Order may be issued by the DCR for changes in the Work within the scope of the Contract, including but not limited to, changes in: (1) the Plans and Specifications; (2) the method or manner of performance of the Work; (3) the DCR-furnished facilities, equipment, materials, services, or Site; (4) the schedule for performance of the Work.

C. The Contractor shall immediately perform any Change Order work that is ordered by the DCR.

D. Whenever a Change Order is issued and said Change Order will cause a change in the Contractor's cost, the Contractor or the DCR may request an equitable adjustment in the Contract Price. A request for such an adjustment shall be in writing and shall be submitted by the party making such claim to the other party before commencement of the pertinent work or as soon thereafter as possible.

E. The DCR and the Contractor shall negotiate in good faith an agreement on an equitable adjustment in the Contract Price, and/or time if appropriate, before commencement of the pertinent work or as soon thereafter as is possible. In the absence of an agreement for an equitable adjustment, the DCR shall unilaterally determine the costs attributable to the change and provide the Contractor with a written notice to that effect. The determination of the DCR shall be final as to all questions of the amount and value of extra work, where the Contractor does not appeal said decision pursuant to the process set forth in this paragraph. The Contractor may appeal the decision of the DCR within thirty days of receipt of said notice, to the Commissioner of the DCR or his designee. The Contractor shall have the right to such further appeal as is provided in M.G.L. c. 30, sec. 39Q set forth in Section 4.D of this Article VII. However, if the Contractor shall exercise its rights to appeal the decision of the DCR as

aforsaid, the Contractor shall be required to engage in the mediation procedures set forth in Section 5 of this Article VII, should the DCR require such mediation.

F. During the negotiation of an equitable adjustment in the Contract Price, the Contractor shall, if requested, provide the DCR with all cost and pricing data used by him in computing the amount of the equitable adjustment, and the Contractor shall certify that the pricing data used was accurate, complete, and current. If the DCR subsequently determines that the data submitted by the Contractor was incomplete, incorrect, or not current, the DCR may exclude such data from consideration under the equitable adjustment request.

2. Methods of Computing Equitable Adjustments.

A. Equitable adjustments in the Contract Price shall be determined according to one of the following methods, or a combination thereof, as determined by the DCR: (1) fixed price basis, provided that the fixed price shall be inclusive of items (a) through (e) below and shall be computed in accordance with those provisions; (2) estimated lump sum basis to be adjusted in accordance with Contract unit prices or other agreed upon unit prices provided that the unit prices shall be inclusive of all costs related to such equitable adjustment; (3) time and materials basis to be subsequently adjusted on the basis of actual costs (but subject to a predetermined "not to exceed limit") calculated as follows:

(a) the direct cost (or credit) for labor at the minimum wage rates established for this Contract pursuant to M.G.L. c. 149, sections 26-27H, and the direct cost for material and use of equipment.

(b) plus (or minus) the cost of Workmen's Compensation Insurance, Liability Insurance, Federal Social Security and Massachusetts Unemployment Compensation, or as an alternative the Contractor may elect to use a flat 30% of the total labor rate computed in accordance with subparagraph (a) above.

(c) plus, an allowance equal to 20% of the amount of (a) above for overhead, superintendence, and profit; (In the case of Item 1 work, which is the work of the Contractor and all his non-filed Subcontractors, said 20% allowance shall be paid to the Contractor and the Contractor and said non-filed Subcontractors shall agree upon the distribution of this amount as a matter of contract between them. In the case of Item 2 work, which is work performed by a Subcontractor filed pursuant to M.G.L. c. 149, sec. 44F, said 20% allowance shall be paid to the filed Subcontractor, it being understood that this provision does not apply to other Subcontractors including sub-Subcontractors listed under paragraph E of the form for sub-Bid).

(d) plus, for work performed by a Subcontractor filed pursuant to M.G.L. c. 149, sec. 44F, an additional allowance equal to 7% of the sum of (a) through (c) above as full compensation to the Contractor for processing forms and assuming full responsibility for the faithful performance of such work by said filed Subcontractor(s).

(e) plus (or minus) the actual direct additional premium costs and expenses incurred because of collective bargaining agreements or other agreements between organized labor and employers, and plus (or minus) the actual direct premium cost of payment and performance bonds required of the Contractor and filed Subcontractors for this Contract.

B. If the net change is an addition to the Contract Price, it shall include the Contractor's overhead, superintendence, and profit. On any change that involves a net credit, no allowance for overhead, superintendence and profits shall be included. For any change that does not include labor performed or materials installed in the Project, there will be no markup for the Contractor's overhead, superintendence, and profit, even though there may be a net increase in the Contract Price. Charges for small tools known as "tools of the trade" are not to be computed in the amount of any change in the Contract Price.

C. Statutory Contract adjustments made under the provisions of M.G.L. c. 149, sec. 44F shall not be considered Change Orders and shall not entitle the Contractor to any adjustments for overhead, profit, and superintendence, although the DCR may require that such Contract adjustments be processed on standard Change Order and equitable adjustment forms.

3. Work Performed Under Protest.

The Contractor agrees to perform all Work as directed by the DCR, and if the Project Engineer determines that certain Work that the Contractor believes to be or to warrant a Change Order under this Article does not represent a change in the Work, the Contractor shall perform said Work. The Contractor shall be deemed to have concurred with the Project Engineer's determination as aforesaid unless the Contractor shall perform Work under protest in compliance with the following sub-paragraphs (1) and (2) below:

(1) If the Contractor claims compensation for a change in the Work that is not deemed by the Project Engineer to be a change or to warrant additional compensation as claimed by the Contractor, the Contractor shall within one week after the commencement of any such work or the sustaining of any such damage submit to the Resident Engineer a written statement of the nature of such work or claim. The Contractor shall not be entitled to additional compensation for any work performed or damage sustained for which written notice is not given within the time limit specified in the preceding sentence, even though similar in character to work or damage with respect to which notice is timely given.

(2) On or before the fifteenth day of the month succeeding that in which any such extra work shall have been done or any such damage shall have been sustained, the Contractor shall file to the extent possible with the Resident Engineer, itemized statements of the details and costs of such work performed, or damage sustained. If the Contractor shall fail to make such statement to the extent possible, then the Contractor shall not be entitled to additional compensation for any such work or damages.

4. False Claims. Statutory Provisions Regarding Changes.

A. Criminal Penalties: The Contractor's attention is directed to M.G.L. c. 30, sec. 39I which provides criminal penalties for unauthorized deviations from the Plans and Specifications, and to M.G.L. c. 30, sec. 39J, and if performing work on a capital facility project, M.G.L. c. 7, sec. 42E-42I. The Contractor's attention is also directed to M.G.L. c. 266, sec. 67B which provides criminal penalties for false claims by Contractor under this Contract:

"Whoever makes or presents to any employee, department, agency or public instrumentality of the commonwealth, or of any political subdivision thereof, any claim upon or against any department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious, or fraudulent, shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two and one-half years, or both."

B. Differing Site Conditions (M.G.L. c. 30, sec. 39N): *"If, during the progress of the work, the contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the plans or indicated in the contract documents either the contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing Site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly."*

C. Timely Decision by Awarding Authority. (M.G.L. c. 30, sec. 39P): *"Every contract subject to section thirty-nine M of this chapter or section forty-four A of chapter one hundred forty-nine which requires the awarding authority, any official, its architect or engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty days after the written submission for decision; but if such decision requires extended investigation and study, the awarding authority, the official, architect or engineer shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty day period and the date by which the decision will be made."*

D. Change Order / Contract Interpretation Appeal Procedure (M.G.L. c. 30, sec. 39Q): The following provisions apply to every contract awarded by any state agency as defined by M.G.L. c. 7, sec. 39A for the construction, reconstruction, alteration, remodeling, repair, or demolition of any capital facility as defined by the aforesaid section 39A:

"(a) Disputes regarding changes in and interpretations of the terms or scope of the contract and denials of or failures to act upon claims for payment for extra work or materials shall be resolved according to the following procedures, which shall constitute the exclusive method for resolving such disputes. Written notice of the matter in dispute shall be submitted promptly by the claimant to the chief executive official of the state agency which awarded the contract or his designee. No person or business entity having a contract with a state agency shall delay, suspend, or curtail performance under that contract because of any dispute subject to this section. Any

disputed order, decision or action by the agency or its authorized representative shall be fully performed or complied with pending resolution of the dispute.

"(b) Within thirty days of submission of the dispute to the chief executive official of the state agency or his designee, he shall issue a written decision stating the reasons therefore and shall notify the parties of their right of appeal under this section. If the official or his designee is unable to issue a decision within thirty days, he shall notify the parties to the dispute in writing of the reasons why a decision cannot be issued within thirty days and of the date by which the decision shall issue. Failure to issue a decision within the thirty-day period or within the additional time specified in such written notice shall be deemed to constitute a denial of the claim and shall authorize resort to the appeal procedure described below. The decision of the chief executive official or his/her designee shall be final and conclusive unless an appeal is taken as provided below.

"(c) Within twenty-one calendar days of the receipt of a written decision or of the failure to issue a decision as stated in the preceding subparagraph, any aggrieved party may file a notice of claim for an adjudicatory hearing with the division of hearing officers or the aggrieved party may file an action directly in a court of competent jurisdiction and shall serve copies thereof upon all other parties in the form and manner prescribed by the rules governing the conduct of adjudicatory proceedings of the division of hearing officers. In the event an aggrieved party exercises his option to file an action directly in court as provided in the previous sentence, the twenty-one-day period shall not apply to such filing and the period of filing such action shall be the same period otherwise applicable for filing a civil action in superior court. The appeal shall be referred to a hearing officer experienced in construction law and shall be prosecuted in accordance with the formal rules of procedure for the conduct of adjudicatory hearings of the division of hearing officers, except as provided below. The hearing officer shall issue a final decision as expeditiously as possible, but in no event more than one hundred and twenty calendar days after conclusion of the adjudicatory hearing, unless the decision is delayed by a request for extension of time for filing post-hearing briefs or other submissions assented to by all parties. Whenever, because an extension of time has been granted, the hearing officer is unable to issue a decision within one hundred and twenty days, he shall notify all parties of the reasons for the delay and the date when the decision will issue. Failure to issue a decision within the one-hundred-and-twenty-day period or within the additional period specified in such written notice shall give the petitioner the right to pursue any legal remedies available to him without further delay.

"(d) When the amount in dispute is less than ten thousand dollars, a contractor who is party to the dispute may elect to submit the appeal to a hearing officer experienced in construction law for expedited hearing in accordance with the informal rules of practice and procedure of the division of hearing officers. An expedited hearing under this subparagraph shall be available at the sole option of the contractor. The hearing officer shall issue a decision no later than sixty days following the conclusion of any hearing conducted pursuant to this subparagraph. The hearing officer's decision shall be final and conclusive and shall not be set aside except in cases of fraud."

5. Mediation.

In the case of every dispute where the dollar amount in dispute (or the estimated dollar value of the extension of time in dispute) is \$50,000 or more and the Contractor appeals the decision of the DCR or his designee described in Section 4.B above, the DCR shall retain the option at its sole discretion of initiating a process whereby the DCR and the Contractor shall engage in good faith in a non-binding mediation process, which process shall be concluded within sixty days from the date that the Contractor files an appeal from said decision as provided in Section 4.B above.

ARTICLE VIII: PAYMENT PROVISIONS

1. Schedule of Values.

Before the first application for payment the Contractor shall submit to the DCR a schedule of values allocated to various portions of the Work in sufficient detail to reflect the various major components of each trade (with filed Subcontractors as well as MBE/WBE noted), including quantities when requested, aggregating the total Contract Price, and divided so as to facilitate payments for work under each section of the Specifications. The schedule shall be prepared in such form and supported by such data to substantiate its accuracy as the DCR may require. Each item in the schedule shall include its proper share of overhead and profit. When approved by the DCR, it shall constitute the Schedule of Values and shall be used only as a basis for the Contractor's requests for payments.

2. Payment Liabilities of Contractor.

A. The Contractor shall pay to the DCR all expenses, losses, and damages, as determined by the DCR, incurred in consequence of any default, defect, omission or mistake of the Contractor or his/her employees or Subcontractors or the making good thereof.

B. If the Work (or a portion thereof) is not completed to Substantial Completion and the Contractor has not fully completed the Work by the date specified in Article 2 of the Department of Conservation and Recreation - Contractor Agreement, the Contractor shall pay to the DCR liquidated damages as provided in Article VI, Section 2 of these General Conditions of the Contract.

3. Retention of Moneys by the DCR.

A. The DCR may keep any moneys which would otherwise be payable at any time hereunder, and apply the same, or so much as may be necessary therefor, to (1) the DCR's expenditures for the Contractor's account, (2) to secure the DCR's remedies against the Contractor for the Contractor's breach of its obligations under this Contract or the breach of any person performing any part of the Work and (3) the payment of any expenses, losses or damages incurred by the DCR as a result of the failure of the Contractor to perform its obligations hereunder. The DCR may retain, until all claims are settled, such moneys as the DCR estimates to be the fair value of the DCR's claims against the Contractor, and of all claims for labor performed or furnished and for materials used or employed in or in connection with the Work and for the rental of vehicles, appliances and equipment employed and for the employment of substitute contractors and labor in connection with the Work, in accordance with M.G.L. c. 30, sections 39A and 39F. The DCR may make such settlements and apply thereto any moneys retained under this Contract.

B. The Contractor shall each week examine all claims so filed, and if the same are in any respect incorrect or do not correctly show the amount due from the Contractor to the claimant for such labor and materials, the Contractor shall forthwith file with the DCR a separate written statement of all inaccuracies in each claim and of the correct amount due from the Contractor to each claimant therefor, and shall immediately file a statement of all payments thereafter made to such claimants. Each such statement shall be sworn to and contain a detailed breakdown as required by M.G.L. c. 30 s. 39F(d). Unless such statements are so filed by the Contractor the amount shown by the claims filed shall at the option of the DCR be conclusively deemed to be the accurate amount due from the Contractor therefor in all accounting with the DCR. If the moneys retained under this Contract are insufficient to pay the sums found by the DCR to be due under the claims for labor and materials filed as aforesaid, the DCR may, at its discretion, pay the same, and the Contractor shall repay to the DCR all sums paid out. The DCR may also at its discretion use any moneys retained, due or to become due under this Contract, for the purpose of paying for both labor and materials used or employed in the Work for which claims have not been filed with the DCR.

C. No moneys retained under the provisions of this Article shall be held to be statutory security for the payment of claims filed in accordance with the provisions of M.G.L. c. 149, sec. 29, as amended, for which security is provided by bond.

4. Applications for Payment.

A. The Contractor shall, once in each month on the day of the month corresponding to the day of the month specified in the Notice to Proceed referenced in Article 2 of the Department of Conservation and Recreation - Contractor Agreement, in writing and in the manner prescribed by the DCR, submit to the Resident Engineer a statement showing the total amount of Work done to the time of such estimate and the value thereof as approved by the Resident Engineer and the Project Engineer. It shall be the sole responsibility of the Contractor to deliver or cause to be delivered to the Resident Engineer said periodic estimate in proper form, approved as provided above and arithmetically correct. All periodic estimates shall contain such certifications and other evidence supporting the Contractor's right to payment as the DCR may require, including without limitation, lien waivers and other evidence, on such forms as the DCR may require, establishing that title to the equipment or materials is unencumbered and has been transferred to the Department of Conservation and Recreation. If there is no Resident Engineer assigned to the Contract, the DCR shall designate a person at the project field office or alternatively the home office of the DCR. The Contractor shall include in such periodic estimate only such materials as are incorporated in the Work, except as provided in paragraph C below. The DCR shall retain no more than five percent of such estimated value as part security for the completion of the Work and shall pay to the Contractor while carrying on the Work the balance not retained as aforesaid, subject to the approval of the DCR after deducting therefrom all previous payments and all sums to be kept under the provisions of this Contract.

B. Each periodic estimate shall constitute the Contractor's representation that (1) the payment then requested to be disbursed has been incurred by the Contractor on account of the Work and is justly due to Subcontractors or, to the Contractor in the case of other Work performed by the Contractor on account thereof, (2) the materials, supplies and equipment for which Application for Payment is being submitted have been installed or incorporated into the Work or have been stored at the Site or at such off Site storage locations as the DCR shall have Approved, (3) the materials, supplies and equipment are insured in accordance with the provisions of this Contract, (4) the materials, supplies and equipment are owned by the Department of Conservation and Recreation and are not subject to any liens or encumbrances, (5) the Work which is the subject of such periodic estimate has been performed in accordance with the Contract Documents and (6) that all due and payable bills with respect to the Work have been paid to date or shall be paid from the proceeds of such periodic estimate. The Contractor's attention is directed to the criminal penalties for false claims referenced in paragraph A above.

C. The Contractor may include in a periodic estimate the value of materials or equipment delivered at the Site (or at some location agreed to in writing) only upon delivery to the DCR of: (1) an acceptable transfer of title on the form provided by the DCR; (2) written certification by the Contractor (or applicable subcontractor) on the form provided by the DCR that the Contractor (or the Subcontractor which executed the transfer of title) is the lawful owner and that the materials or equipment are free from all encumbrances, accompanied by receipted invoices or other acceptable proof of encumbrance-free ownership if such proof is deemed necessary by the DCR; (3) a stored materials insurance binder that covers the materials for which payment is requested, that names the Department of Conservation and Recreation as an insured party should the stored materials be subjected to any casualty, loss, or theft prior to their inclusion in the Work. The material(s) or equipment must, in the judgment of the DCR (1) meet the requirements of the Contract, including prior drawing, product data, and sample approval, (2) be ready for use, and (3) be properly stored by the Contractor and be adequately protected until incorporated into the Work. See also Article V.5.C of these General Conditions of the Contract concerning the cost of inspections.

D. The DCR may make changes in any periodic estimate submitted by the Contractor in accordance with M.G.L. c. 30, sec. 39K for building projects (see below), and in accordance with M.G.L. c. 30, sec. 39G for public works projects (see below), and the payment due shall be computed in accordance with the changes so made. The provisions of said section 39K shall govern payments for building projects on which the DCR has made changes, and the provisions of said section 39G shall govern payments for public works projects on which the DCR has made changes.

E. No certificate for payment and no progress payment shall constitute acceptance of Work that is not in accordance with the Contract Documents.

F. The Contractor and all Subcontractors furnishing labor on this Contract agree to furnish certified payroll reports if requested to do so, at no additional expense to the DCR. The DCR may at all reasonable times audit such reports.

5. Periodic Payments (M.G.L. c. 30, sec. 39K) for Building Projects.

For building contracts, the DCR shall make payment to the Contractor in accordance with M.G.L. c. 30, sec. 39K, which provides as follows:

" Within fifteen days (30 days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority upon certification by the contractor that he is the lawful awarding authority and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the Contract less (1) a retention based on its estimate of the fair value of its claims against the

contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate specified in in G.L. c. 29, §29C , commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days (twenty-four days in the case of the commonwealth) after receipt of such period estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the change so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven days after receipt, return to the contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair, or demolition of any public building to which this section applies.

All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed sub-trade and each sub-sub-trade listed in sub-bid form as required by specifications and column listing the amount paid to each filed subcontractor as of the date of the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date of receipt marked on the estimate.

A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section.

Notwithstanding the provisions of this section, at any time after the value of the work remaining to be done is, in the estimation of the awarding authority, less than 1 per cent of the adjusted contract price, or the awarding authority has determined that the contractor has substantially completed the work and the awarding authority has taken possession for occupancy, the awarding authority may send to the general contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including, for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The general contractor shall then complete all such work items within 30 days of receipt of such list or before the contract completion date, whichever is later. If the general contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the awarding authority or before the contract completion date, whichever is later, subsequent to an additional 14 days' written notice to the general contractor by certified mail, return receipt requested, the awarding authority may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the general contractor and such termination shall be without prejudice to any other rights or remedies the awarding authority may have under the contract. The awarding authority shall note any such termination in the evaluation form to be filed by the awarding authority pursuant to the provisions of section 44D of chapter 149."

6. Payment of Subcontractors (M.G.L. c. 30, sec. 39F).

The Contractor shall make payments to Subcontractors in accordance with the provisions of M.G.L. c. 30, sec. 39F, which is quoted in this section below, where applicable. (M.G.L. c. 30, sec. 39F requires that subparagraphs (a) through (h) be set forth in contracts awarded under M.G.L. c. 30, sec. 39M and M.G.L. c. 149, sections 44A-44H; said statute requires that subparagraph (i) be set forth in contracts awarded under M.G.L. c. 149, sections 44A-44H).

"1(a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general Contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(b) Not later than the sixty-fifth day after each subcontractor substantially completes his work in accordance with the Plans and Specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and less any amount claimed due from the subcontractor by the general contractor.

(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (1) and (2) the awarding authority shall act upon the demand as provided in this section.

(d) If, within seventy days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general contractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract and a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the subcontractor has substantially completed the subcontract work. Within ten days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

(e) Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deduction from direct payments made as provided in parts (i) and (ii) of this subparagraph.

(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (5) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demand for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (6) shall be made out of amounts payable to the general

contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the General contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.

(h) The awarding authority shall deduct from payments to a General contractor amounts which, together with the deposits in interest bearing accounts pursuant to subparagraph (6) are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.

(i) If the subcontractor does not receive payment as provided in subparagraph (1) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (1), the subcontractor may demand direct payment by following the procedure in subparagraph (4) and the general contractor may file a sworn reply as provided in that same subparagraph. A demand made after the first day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g) and (h).

(2) Any assignment by a subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of section twenty-nine of chapter one hundred forty-nine shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the awarding authority, or which are on deposit pursuant to subparagraph (6) shall be subordinate to the rights of all subcontractors who are entitled to be paid under this section and who have not been paid in full.

(3) "subcontractor" as used in this section (I) for contracts awarded as provided in sections forty-four A to forty-four L, inclusive, of chapter one hundred forty-nine shall mean a person who files a sub-bid and received a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, (ii) for contracts awarded as provided in paragraph (1) of section thirty-nine M of chapter thirty shall mean a person approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, and (iii) for contracts with the commonwealth not awarded as provided in sections forty-four A to forty-four L, inclusive, of chapter one hundred forty-nine shall also mean a person contracting with the general contractor to supply materials used or employed in a public works project for a price in excess of five thousand dollars.

(4) A general contractor or a subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposit as provided in subparagraph (6) by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in subparagraph (6) by a petition in equity in the superior court against the awarding authority and the general contractor shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. Sections fifty-nine and fifty-nine B of chapter two hundred thirty-one shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to sections fifty-nine and fifty-nine B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any subcontractor with the petition of one or more subcontractors or the same general Contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will prevent unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited more than the interest earned for the period of any such deposit. No person except a subcontractor filing a demand for direct payment for which no funds due the general contractor are available for direct payment shall have a right to file a petition in court of equity against the awarding authority claiming a demand for direct payment is premature and such subcontractor must file the petition before the awarding authority has made a direct payment to the subcontractor and has made a deposit of the disputed portion as provided in part (iii) of subparagraph (5) and in subparagraph (6).

(5) In any petition to collect any claim for which a subcontractor has filed a demand for direct payment the court shall, upon motion of the general contractor, reduce by the amount of any deposit of a disputed amount by the awarding authority as provided in part (iii) of subparagraph (5) and in subparagraph (6) any amount held under a trustee writ or pursuant to a restraining order or injunction."

7. Contracts for Public Works Governed by M.G.L. c. 30, sec. 39G:

The following statutory provision applies only to contracts for public works governed by M.G.L. c. 30, sec. 39G: "Upon substantial completion of the work required by a Contract with the Owner, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges, and other highway structures, sewers and water mains, airports and other public works, the contractor shall present in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority shall present to the contractor either a written declaration that the work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the Contract sufficient to demonstrate that the work has not been substantially completed. The awarding authority may include with such a list a notice setting forth a reasonable time, which shall not in any event be prior to the Contract completion date, within which the contractor must achieve substantial completion of the work. If the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty- one-day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

Within sixty-five days after the effective date of a declaration of a substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quantity and price of the work done and all but one percent retainage of that undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory work items and less the total periodic payments made to date for the work. The awarding authority also shall deduct from the substantial completion estimate an amount equal to the sum of all demands for direct payments filed by subcontractors and not yet paid to subcontractors or deposited in joint accounts pursuant to section thirty-nine F, but no Contract subject to said section thirty-nine F shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the Contract by subcontractors, material suppliers or others.

If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by this section on or before the date herein above set forth, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such substantial completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

Within fifteen days after the effective date of the declaration of substantial completion, the awarding authority shall send to the contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond his control, the contractor shall complete all such work items within forty-five days after the receipt of such list or before the then Contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, after seven days' written notice to the contractor by certified mail, return receipt requested, terminate the Contract, and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

Within thirty days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the Contract has been completed, the awarding authority shall prepare and forthwith send to the contractor for acceptance a final estimate for the quantity and price of the work done and all retainage on that work less all payments made to date, unless the awarding authority's inspection shows that work items required by the Contract remain incomplete or unsatisfactory, or that documentation required by the Contract has not been completed. If the awarding authority fails to prepare and send to the contractor the final estimate within thirty days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount

which would have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefore, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the Contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth day to the date of payment. Within 15 days, 30 days in the case of the commonwealth, after receipt from the contractor, at the place designated by the awarding authority, if such place is designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period and for the materials not incorporated in the work but delivered and suitably stored at the Site, or at some location agreed upon in writing, to which the contractor has title or to which a subcontractor has title and authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate herein above provided from the due date. In the case of periodic payments, the contracting authority may deduct from its payment a retention based on the estimate of the fair value of its claims against the contractor, a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and a retention to secure satisfactory performance of the contractual work not exceeding five per cent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section thirty-nine F of chapter thirty; provided that a five per cent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.

Substantial completion, for the purposes of this section, shall mean either that the work required by the Contract has been completed except for work having a Contract Price of less than one percent of the then adjusted total Contract Price, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract"

8. Liens

Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, delivers to the DCR a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he/she has knowledge or information, the releases and receipts include all labor and material for which a lien could be filed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the DCR, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the DCR, all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

9. Final Payment: Release of Claims by Contractor.

Upon Final Acceptance of the Work the Contractor shall be entitled to payment of the balance of the Contract Price. Final payment shall be as provided in this Article above and in accordance with any process set forth in the Special Conditions. The Contractor agrees to execute a Certificate of Final Inspection, Release (with Contractor's own exceptions listed thereon) and Acceptance as a condition precedent to Final Payment. The acceptance by the Contractor of the Final Payment made as aforesaid, or the execution of the Certificate of Final Acceptance by the Contractor, shall constitute a release of the Department of Conservation and Recreation, and every member and agent of it, from all claims of and liability to the Contractor for anything done or furnished for or relating to the

Work, or for any act or neglect of the Department of Conservation and Recreation, or of any person relating to or affecting the Work, except the claim against the Department of Conservation and Recreation for the remainder, if any there be, of the amounts set forth by the Contractor in the Certificate of Final Inspection, Release and Acceptance. Final Acceptance shall not relieve the Contractor of the requirements of Articles IX, XIV, and XV of these General Conditions of the Contract, or of other provisions of this Contract, to the extent that the same are intended to survive Final Acceptance.

ARTICLE IX. GUARANTEES AND WARRANTIES

1. General Warranty.

If at any time during the period of one (1) year from the date of Final Acceptance, any part of such Work shall in the reasonable opinion of the DCR be defective or require replacing or repairing, or damage to other property of the DCR is caused by any defect in the Work, the DCR shall notify the Contractor in writing to make the required repairs or replacements and repair such damage. If the Contractor shall neglect to commence such repairs or replacements to the satisfaction of the DCR within ten (10) days from the date of the giving of such notice, then the DCR may employ other persons to make the same. The Contractor agrees, upon demand, to pay to the DCR all amounts which it expends for such repairs, replacements, and/or damages. During this one-year guarantee period any corrective work shall be performed under all the applicable terms of this Contract, and if Change Orders are issued in accordance with the terms of this Contract, the Contractor shall be entitled to compensation for special insurance, as required. This one-year guarantee shall not limit any express guaranty or warranty provided elsewhere in the Contract.

2. Special Guarantees and Warranties.

A. The Contractor's obligation to correct Work as set forth in paragraph 1 above is in addition to, and not in substitution of, such guarantees or warranties as may be required in the various sections of the Specifications.

B. Guarantees and warranties required in the various sections of the Specifications must be delivered to the DCR before final payment to the Contractor may be made, or in the case of guarantees and warranties which originate with a subcontractor's section of the Work, before final payment for that sub-trade or for the phase of Work to which the guarantee or warranty relates.

C. The failure to deliver a required guarantee or warranty shall constitute a failure to fully complete the Work in accordance with the Contract Documents.

ARTICLE X: MISCELLANEOUS LEGAL REQUIREMENTS.

1. Contractor to be Informed.

The Contractor shall inform itself of all existing and future Laws in any manner affecting those engaged or employed in the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and of all orders and decrees of bodies or tribunals having any applicable jurisdiction or authority over the Work.

2. Compliance with all Laws.

The Contractor shall cause all persons employed in the performance of the Work to comply with all existing and future Laws, including but not limited to those set forth below:

A. Corporate Disclosures. The Contractor if a foreign corporation, shall comply with M.G.L. c. 30, sec. 39L.

B. Veterans Preference. In the employment of mechanics and apprentices, teamsters, chauffeurs, and laborers in the performance of Work in the Commonwealth, preference shall first be given to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment and who are veterans as defined M.G.L. c. 4, sec. 7(43), and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the Commonwealth generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States.

C. Prevailing Wages. The Contractor shall comply with M.G.L. c. 149, sections 26-27H. The prevailing wage schedule is found in Exhibit A to the Instructions to Bidders, listing the prevailing minimum wage rates that must be paid to all workers employed in the Work. The DCR is not responsible for any errors, omissions, or misprints in said schedule. Such

Schedule shall continue to be the minimum rate of wages payable to workers employed in the Work throughout the term of this Contract, subject to the exceptions provided in M.G.L. c. 149, sections 26-27H. The Contractor shall not have any claim for extra compensation from the Department of Conservation and Recreation if the actual wages paid to workers employed in the Work exceeds the rates listed on the schedule or as otherwise provided by law. The Contractor shall cause a copy of said Schedule to be kept in a conspicuous place at the Site during the term of the Contract. If reserve police officers are employed by the Contractor, they shall be paid the prevailing wage of regular police officers. (See M.G.L. c. 149, sec. 34B).

D. Payroll Records and Statement of Compliance. The Contractor shall comply and shall cause its Subcontractors to comply with Massachusetts General Law c. 149, sec. 27B, which requires that a true and accurate record be kept of all persons employed on a project for which the prevailing wage rates have been provided. The Contractor and all Subcontractors shall keep these records and preserve them for a period of three years from the date of completion of the Contract. Such records shall be open to inspection by any authorized representative of the Department of Conservation and Recreation at any reasonable time, and as often as may be necessary. The Contractor shall, and shall cause its subcontractors to, submit weekly copies of their weekly payroll records to the DCR. In addition, the Contractor and each Subcontractor shall furnish to the Executive Department of Labor within fifteen days after completion of its portion of the Work a signed statement in the form required by the DCR.

E. Vehicle operators. If the Director of the Department of Labor and Workforce Development has established a Schedule of wage rates to be paid to the operators of trucks, vehicles or equipment for the Work, the Contractor shall be obligated to pay such operators at least the minimum wage rate contained on such Schedule. (See M.G.L. c. 149, sections 26-27H).

F. Eight Hour Day. The Contractor shall comply with M.G.L. c. 149, sections 30 and 34, which provide that no laborer, workman, mechanic, foreman or inspector working within the Commonwealth in the employ of the Contractor, subcontractor or other person doing or contracting to do the whole or part of the Work shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of extraordinary emergency.

G. Timely Payment of Wages. The Contractor shall comply with and shall cause its Subcontractors to comply with M.G.L. c. 149, sec. 148 which requires the weekly or biweekly payment of employees within six days of the end of the pay period during which wages were earned if employed for five or six days of a calendar week, and within other periods of time under certain circumstances as set forth therein.

H. Lodging, etc. The Contractor shall comply with, and shall cause its Subcontractors to comply with, M.G.L. c. 149, sec. 25 which provides that every employee under this Contract shall lodge, board, and trade where and with whom he elects, and neither the Contractor nor his agents or employees shall, either directly or indirectly, require as a condition of the employment of any person that the employee shall lodge, board, or trade at a particular place or with a particular person.

I. Truck Rates. The use by the Contractor of trucks or other motor vehicles hired from either common or contract motor carriers in the course of performance of this Contract is subject to such minimum rates and charges, and rules and regulations as may from time to time be promulgated by the Department of Public Utilities of the Commonwealth of Massachusetts or other agency of the State or Federal government which may be authorized by law to set rates or otherwise regulate the use of such vehicles. The Contractor expressly assumes the risk of any additional expense that may arise by reason of any change in such minimum rates and charges, and rules and regulations, and shall be entitled to no additional compensation or reimbursement by reason thereof.

J. Anti-Boycott Covenant (Executive Order #130). The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott, as defined in Section 999(b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engages in conduct declared to be unlawful by M.G.L. c. 151E, sec. 2. If there shall be a breach in the warranty, representation or agreement contained in this paragraph, then without limiting such other rights as it may have the DCR shall be entitled to rescind this contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor; or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

K. Contractor's Agreements with Suppliers--Anti-Boycott and Anti-Discrimination Provisions.

(1) The Contractor shall not purchase or rent any materials, equipment, machinery, vehicles or supplies for or in connection with the Work from any person or entity who does not sign, under pains and penalties of perjury, a certificate that recites: "the undersigned warrants, represents and agrees that during the time its agreement with (insert contractor's name) is in effect for materials, supplies or equipment to be used in connection with the Department of Conservation and Recreation Contract No. (insert contract number), neither the undersigned or any affiliated company, as hereafter defined, participates in or cooperates with an international boycott, as defined in Section 999(b)(3) and (4) of the Internal Revenue Code of 1954, as amended, or engages in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the undersigned or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the undersigned; or which directly or indirectly owns at least 51% of the ownership interests of the undersigned."

(2) The DCR shall not be obligated to pay the Contractor for the cost of any materials, supplies, or equipment purchased or rented from any individual or entity from whom the Contractor has not previously obtained and delivered to the DCR the certificate that the previous paragraph requires. The Contractor will immediately terminate its contract with any supplier who breaches the warranty, representation and agreement contained in the previous paragraph.

(3) The Contractor shall include in the Contractor's agreement with any person or entity from whom the Contractor intends to purchase or rent any materials, equipment, machinery, vehicles or supplies for or in connection with the Work, (a) a notice that this Contract obligates the Contractor to terminate the supply contract upon discovery of such breach of the sworn certificate delivered under subparagraph (1) and such termination shall be without liability to the Contractor or the DCR and (b) a provision which states: "The Governor or his designee, the secretary of administration and finance, and the state auditor or his designee shall have the right at reasonable times and upon reasonable notice to examine the books, records and other compilations of the undersigned vendor which pertain to the performance and requirements of this agreement to provide materials of any nature to the undersigned contractor in connection with DCR Contract No. (insert contract number)."

L. Access to Contractor's Records (Executive Order #195). The Governor or his/her designee, the secretary of administration and finance, and the state auditor or his/her designee shall have the right at reasonable times and upon reasonable notice to examine the books, records, and other compilations of data of the Contractor which pertain to the performance and requirements of this Contract.

ARTICLE XI: CONTRACTOR'S ACCOUNTING METHOD REQUIREMENTS (M.G.L. c. 30, sec. 39R)

1. Definitions.

The words defined herein shall have the meaning stated below whenever they appear in this Article XI:

--"Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a Contract pursuant to M.G.L. c. 30, sec. 39M, and M.G.L. c. 149, sections 44A-H.

--"Contract" means any Contract awarded or executed pursuant to M.G.L. c. 30, sec. 39M, M.G.L. c. 149, sections 44A-H.

--"Independent Certified Public Account" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his/her residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

--"Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

--"Audit", when used regarding financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to

express an opinion for stated reasons.

Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

2. Record Keeping.

A. The Contractor shall make, and keep for at least six years after final payment, books, records, and accounts that in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor.

B. Until the expiration of six years after final payment, the Inspector General and the DCR shall have the right to examine any books, documents, papers or records of the Contractor and Subcontractors that directly pertain to and involve transactions relating to the Contractor and Subcontractors.

C. The Contractor shall describe any change in the method of maintaining records or recording transactions which materially affects any statements filed with the DCR including the date of the change and reasons therefor and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes.

D. The Contractor represents that it has, prior to the execution of the Contract, filed a statement of management on internal accounting controls as set forth in Section 3 below.

E. The Contractor represents that it has, prior to the execution of the Contract, filed an audited financial statement for the most recent completed fiscal year as set forth in section 4 below and will continue to file such statement annually during the term of the Contract.

3. Statement of Management Controls.

A. The Contractor shall file with the DCR a statement of management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:

- (1) transactions are executed in accordance with management's general and specific authorization.
- (2) transactions are recorded as necessary: (a) to permit preparation of financial statements in conformity with generally accepted accounting principles, and (b) to maintain accountability for assets.
- (3) access to assets is permitted only in accordance with management's general or specific authorization; and
- (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

B. The Contractor shall file with the DCR a statement prepared and signed by an independent certified public accountant, stating that the accountant has examined the statement of management on internal accounting controls, and expressing an opinion as to:

- (1) whether the representations of management in response to subparagraph 3 above are consistent with the results of management's evaluation of the system of internal accounting controls; and
- (2) whether such representations of management are reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statement.

4. Annual Financial Statement.

A. Every Contractor awarded a contract under M.G.L. c. 30, sec. 39M or M.G.L. c. 149, sections 44A-44H shall annually file with the Commissioner of the Division of Capital Asset Management and Maintenance during the term of the Contract a financial statement prepared by an independent certified public accountant based on an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the DCR upon request.

B. The office of Inspector General and the DCR shall have the right to enforce the provisions of this Article. A Contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to M.G.L. c. 149, sec. 44C.

5. Bid Pricing Materials.

The Contractor shall save the written calculations, pricing information, and other data that the Contractor used to calculate the bid that induced the DCR to enter this Contract (the "Bid Pricing Materials") for at least six years after the DCR makes final payment under this Contract.

ARTICLE XII: EQUAL EMPLOYMENT OPPORTUNITY, NON-DISCRIMINATION, AND AFFIRMATIVE ACTION PROGRAM.

This Contract includes the provisions of the DCR's "Equal Employment Opportunity, Non-Discrimination, and

Affirmative Action Program," attached as Appendix A to these General Conditions of the Contract and incorporated herein by reference.

ARTICLE XIII: GOALS FOR PARTICIPATION BY MINORITY BUSINESS ENTERPRISES AND WOMEN BUSINESS ENTERPRISES

This Contract includes the provisions of the DCR's "Goals for Participation by Minority Business Enterprises and Women Business Enterprises (Executive Order 390), attached as Appendix B to these General Conditions, and as set forth in Section 8 of the Instructions to Bidders, and incorporates same herein by reference.

ARTICLE XIV: INSURANCE REQUIREMENTS

The Contractor shall carry insurance, in the amounts and types specified in Section 7 of the Instructions for Bidders for this Contract and shall comply with all provisions relating to insurance set forth in said Section 7.

ARTICLE XV: INDEMNIFICATION

1. Generally.

To the fullest extent permitted by law, the Contractor shall indemnify, defend (with counsel subject to the supervision of the Attorney General of the Commonwealth of Massachusetts as required by M.G.L. c. 12, sec. 3) and hold harmless the Commonwealth of Massachusetts, its Department of Conservation and Recreation, and its officers, agents, divisions, employees, representatives, successors and assigns from and against all claims, damages, losses and expenses, including but not limited to court costs and attorneys' fees, arising out of or resulting from the performance of the Work, including but not limited to those arising or resulting from:

- labor performed or furnished and/or materials used or employed in the performance of the Work.
- violations by the Contractor, any subcontractor, or by any person directly or indirectly employed or used by any of them in the performance of the Work or anyone for whose acts any of them may be liable (Contractor, subcontractor and all such persons herein collectively called "Contractor's Personnel") of any Laws.
- violations of any provision of this Contract by any of Contractor's Personnel.
- injuries to any persons or damage to any property in connection with the Work.
- any act, omission, or neglect of Contractor's Personnel.

The Contractor shall be obligated as provided above, regardless of whether such claims, damages, losses and/or expenses are caused in whole or in part by the actions or inactions of a party indemnified hereunder. In all claims by Contractor's Personnel against parties indemnified hereunder, the Contractor's indemnification obligation set forth above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Article XV.

2. DCR's Actions.

The obligations of the Contractor under Section 1 above shall not extend to the liability of the DCR, its agents or employees, arising out of (i) the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications by the DCR, or (ii) the giving of or the failure to give directions or instructions by the DCR, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

3. Survival.

The provisions of this Article XV are intended to survive Final Acceptance and/or any termination of this Contract.

ARTICLE XVI: PERFORMANCE AND PAYMENT BONDS

1. Contractor Bonds.

A. The Contractor shall provide performance and payment (labor and materials) bonds in the form provided by the DCR, executed by a surety licensed by the Commonwealth of Massachusetts Division of Insurance. Each such bond shall be in the amount of the Contract Price.

B. If at any time prior to final payment to the Contractor, the Surety:

- is adjudged bankrupt or has made a general assignment for the benefit of its creditors.
- has liquidated all assets and/or has made a general assignment for the benefit of its creditors.
- is placed in receivership.
- otherwise petitions a state or federal court for protection from its creditors; or
- allows its license to do business in Massachusetts to lapse or be revoked.

then the Contractor shall, within 21 days of any such action listed above, provide the DCR with new performance and payment bonds as described in Paragraph A above. Such bonds shall be provided solely at the Contractor's expense.

2. Subcontractor Bonds.

The Contractor is responsible for the costs of the payment and performance bonds of the sub-contractors for the full amount of their respective Subcontracts.

ARTICLE XVII: TERMINATION OF CONTRACT

1. Termination for Cause.

A. The DCR may without prejudice to any other right or remedy deem this Contract terminated for cause if any of the following defaults shall occur and not be cured within five days (5) days after the giving of notice thereof by the DCR to the Contractor and any surety that has given bonds in connection with this Contract:

- (1) The Contractor has filed a petition, or a petition has been filed against the Contractor with its consent, under any federal or state law concerning bankruptcy, reorganization, insolvency or relief from creditors, or if such a petition is filed against the Contractor without its consent and is not dismissed within sixty (60) days; or if the Contractor is generally not paying its debts as they become due; or if the Contractor becomes insolvent; or if the Contractor consents to the appointment of a receiver, trustee, liquidate, custodian or the like of the Contractor or of all or any substantial portion of its assets and such appointment or possession is not terminated within sixty (60) days; or if the Contractor makes an assignment for the benefit of creditors;
- (2) The Contractor refuses or fails, except in cases for which extension of time is provided under this Contract's express terms, to supply enough properly skilled workers or proper materials to perform its obligations under this Contract, or the DCR has determined that the rate of progress required for the timely completion of the Work is not being met.
- (3) The Contractor fails to make prompt payment to Subcontractors or for materials, equipment, or labor.
- (4) All or a part of the Work has been abandoned.
- (5) The Contractor has sublet or assigned all or any portion of the Work, the Contract, or claims thereunder, without the prior written consent of the Department of Conservation and Recreation, except as expressly permitted in this Contract.
- (6) The Contractor has failed to comply with Laws.
- (7) The Contractor fails to maintain, or provide to the DCR evidence of the insurance or bonds required by this Contract, or
- (8) The Contractor has failed to prosecute the Work or any portion thereof to the standards required under this Contract or has otherwise breached any material provision of this Contract.

B. The DCR shall give the Contractor, and any surety notice of such termination for cause, but the giving of notice of such termination shall not be a condition precedent or after the termination's effectiveness. In the event of such termination, and without limiting any other available remedies, the DCR may, at its option:

- (1) hold the Contractor and its sureties liable in damages for a breach of Contract.
- (2) notify the Contractor to discontinue all work, or any part thereof, and the Contractor shall discontinue all work, or any part thereof, as the Department of Conservation and Recreation may designate.
- (3) complete the Work, or any part thereof, and charge the expense of completing the Work or part thereof, to the Contractor.

(4) require the surety or sureties to complete the Work and perform all the Contractor's obligations under this Contract.

If the DCR elects to complete all or any portion of the Work as specified in (3) above, it may take possession of all materials, equipment, tools, machinery, implements owned by the Contractor at or near the Site and finish the Work at the Contractor's expense by whatever means the DCR may deem expedient; and the Contractor shall cooperate

at its expense in the orderly transfer of the same to a new contractor or to the DCR as directed by the DCR. In such case the DCR shall not make any further payments to the Contractor until the Work is finished. The Department of Conservation and Recreation shall not be liable for any depreciation, loss, or damage to said materials, machinery, implements or tools during said use and the Contractor shall be solely responsible for their removal from the Site after the Department of Conservation and Recreation has no further use for them. Unless so removed within fifteen days after notice to the Contractor to do so, they may be sold at public auction, after publication of notice thereof at least twice in any newspaper published in the county where the Work is being performed, and the proceeds credited to the Contractor's account; or they may, at the option of the DCR, be stored at the Contractor's expense subject to a lien for the storage charges.

C. Damages and expenses incurred under paragraph B above shall include, but not be limited to, costs for the DCR's extra services and Project representative services required, in the opinion of the DCR, to successfully inspect and administer the construction contract through final completion of the Work.

D. Expenses charged under paragraph B above may be deducted and paid by the DCR out of any moneys then due or to become due the Contractor under this Contract.

E. All sums, damages, and expenses incurred by the Department of Conservation and Recreation to complete the Work shall be charged to the Contractor. In case the damages and expenses charged are less than the sum that would have been payable under this Contract if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference. In case such expenses shall exceed the said sum, the Contractor shall pay the amount of the excess to the Department of Conservation and Recreation.

2. Termination For Convenience.

A. The DCR may terminate this Contract for convenience even though the Contractor is not in default by giving notice to the Contractor specifying in said notice the date of termination.

B. In case of such termination without cause, the Contractor shall be paid:
(1) all sums due and owing under this Contract through the date of termination, including any retainage withheld to the date of termination, less any amount which the DCR determines is necessary to correct or complete the Work performed to the date of termination; plus (2) a reasonable sum to cover the expenses which the Contractor would not have incurred but for the early termination of the Contract, such as demobilization of the work force, restocking charges, and termination fees payable to Subcontractors.

C. The payment provided in paragraph B above shall be considered to fully compensate the Contractor, and any consultants, Subcontractors, and suppliers, for all claims and expenses directly or indirectly attributable to the termination, including any claims for lost profits.

3. Contractor's Duties Upon Termination for Convenience.

Upon termination of this Contract for convenience as provided in Section 2 of this Article, the Contractor shall: (1) stop the Work; (2) stop placing orders and Subcontracts in connection with this Contract; (3) cancel all existing orders and Subcontracts; (4) surrender the Site to the DCR in a safe condition; (5) transfer to the DCR all materials, supplies, work in process, appliances, facilities, equipment and machinery of this Contract, and all plans, Drawings, Specifications and other information and documents used in connection with this Contract.

ARTICLE XVIII: MISCELLANEOUS PROVISIONS

1. No Assignment by Contractor.

The Contractor shall not assign by power of attorney or otherwise, or sublet or subcontract, the Work, or any part thereof, without the previous written consent of the DCR and shall not, either legally or equitably, assign any of the moneys payable under this Contract, or Contractor's claims hereunder, unless with the like consent of the DCR, whether said assignment is made before, at the time of, or after the execution of the Contract. The Contractor shall remain responsible for satisfactory performance of all Work sublet or assigned. Consent of the DCR shall not be deemed to constitute a representation or waiver of any right hereunder by the DCR as to the qualifications or the responsibility of the Contractor or Subcontractor(s).

2. Non-Appropriation.

The Commonwealth certifies that at the time of the execution of this Contract, sufficient appropriations exist and shall be encumbered to fund the Contract Price. Payments are subject to appropriation and shall be made only for work performed in accordance with the terms of this Contract. The Contractor shall not be obligated to perform,

and shall not perform, work outside the scope of this Contract without an appropriate amendment to this Contract, and a sufficient appropriation(s) to support such additional work. The Commonwealth may immediately terminate or suspend this Contract if the appropriation(s) funding this Contract is eliminated or reduced to an amount which will be insufficient to support anticipated future obligations under this Contract. Such termination shall be deemed a termination for convenience subject to the provisions of paragraph 2 of Article XVII of this Contract.

3. Claims by Others Not Valid.

No person other than the Contractor and the surety on any bond given pursuant to the terms of this Contract shall acquire any interest in this Contract or any claim against the DCR hereunder, and no claim by any other person shall be valid except as provided in M.G.L. c. 30, sec. 39F of the General Laws.

4. No Personal Liability of Public Officials.

No public official, employee, or agent of the DCR shall have any personal liability for the obligations of the DCR set forth in this Contract.

5. Severability.

The provisions of this Contract are severable, and if any of these provisions shall be held unconstitutional or unenforceable by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the other provisions of this Contract.

6. Choice of Laws.

This Contract shall be governed by the laws of the Commonwealth of Massachusetts for all purposes, without regard to its laws on choice of law. All proceedings under this Contract or related to the Project shall be brought in the courts of the Commonwealth of Massachusetts.

7. Standard Forms.

Unless directed otherwise in writing by the DCR, the Contractor shall use the standard forms in use by the Department of Conservation and Recreation.

8. No Waiver of Subsequent Breach.

No waiver of any breach or obligation of this Contract shall constitute a waiver of any other or subsequent breach or obligation.

9. Remedies Cumulative.

All remedies of the DCR provided in this Contract shall be construed as cumulative and may be exercised simultaneously or in any order as determined by the DCR in its sole discretion. The DCR shall also be entitled as of right to specific performance and equitable relief including the right to an injunction against any breach of any of the provisions of this Contract

10. Notices.

Notices to the Contractor shall be deemed given when hand delivered to the Contractor's temporary field office at or near the Site, or when deposited in the U.S. mail addressed to the Contractor at the Contractor's address specified in the Department of Conservation and Recreation - Contractor Agreement, or when delivered by courier to either location. Unless otherwise specified in writing by the DCR, notices and deliveries to the DCR shall be effective only when delivered to the DCR at the address specified in the Department of Conservation and Recreation - Contractor Agreement and date-stamped at the reception desk or for which a receipt has been signed by the agent or employee designated by the DCR to receive official notices.

APPENDIX A to General Conditions of the Contract

The following provisions from Article XII of the General Conditions of the Contract where DCR is the Awarding Authority.

EQUAL EMPLOYMENT OPPORTUNITY, NON-DISCRIMINATION, AND AFFIRMATIVE ACTION

PROGRAM.

1. Compliance Generally.

For purpose of this Article, “minority” refers to Asians, Blacks, Western Hemisphere Hispanics, Native Americans, and Cape Verdeans; “Commission” refers to the Massachusetts Commission Against Discrimination. During the performance of this Contract, the Contractor and all its Subcontractors (hereinafter collectively referred to as the Contractor) shall comply with all applicable equal employment opportunity, non-discrimination and affirmative action requirements, including but not limited to the following:

2. Non-Discrimination and Affirmative Action.

A. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, handicap, sexual orientation, or sex. The aforesaid provision shall include, but not be limited to, the following: employment rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The Contractor shall comply with the provisions of MGL, c. 151B and all other applicable anti-discrimination and equal opportunity laws.

B. The Contractor shall comply with the provisions of Executive Order No. 478 entitled Revoking and Superseding Executive Orders Numbers 253 and 452, with respect to affirmative action programs for handicapped individuals, which is herein incorporated by reference and made a part of this Contract.

C. In connection with the performance of the Work, the Contractor shall undertake in good faith affirmative action measures designed to eliminate any discriminatory religious creed, national origin, age, sexual orientation, or sex and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age, sexual orientation, or sex. A purpose of this provision is to fully ensure possible an adequate supply of skilled tradesmen for future public construction projects.

D. If the Contractor shall use any subcontractor on any work performed under this Contract, the Contractor shall take affirmative steps to negotiate with qualified minority and women subcontractors. These affirmative steps shall cover both pre-bid and post-bid periods. It shall include notification to the State Office of Minority and Women Business Assistance or its designee, while bids are in preparation, of all products, work, or services for which the Contractor intends to negotiate bids. In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor’s obligations under this Contract relative to non-discrimination and affirmative action.

E. As part of its obligation of remedial action under this Article, the Contractor shall maintain on this project not less than the percent ratio set forth in the Owner – Contractor Agreement of minority employee worker hours to total worker hours in each job category including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those “classes of work” enumerated in MGL, c. 149, Sec. 44F.

F. In the hiring of minority journeypersons, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the Commission, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee or the Awarding Authority.

3. Liaison Committee, Reports and Records.

A. At the option of the Awarding Authority, there may be established for the term of this Contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one

representative each from the Awarding Authority, the Commission and such other representatives as may be designated by the Commission in conjunction with the Awarding Authority. The Contractor (or his agent, if any, designated by him as the on-site equal employment opportunity officer) shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.

B. The Contractor shall prepare projected staffing tables on a quarterly basis. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and when updated, to the Awarding Authority and Liaison Committee. The Contractor shall prepare weekly reports in a form approved by the Awarding Authority of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these shall be provided at the end of each such week to the Awarding Authority and to the Liaison Committee.

C. Records of employment referral orders, prepared by the Contractor, shall be made available to the Awarding Authority and to the Liaison Committee on request.

D. A designee of the Awarding Authority and a designee of the Liaison Committee shall each have right to access to the Site.

E. The Contractor shall comply with the provisions of MGL, c. 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made a part of this Contract.

F. The Contractor shall provide all information and reports required by the Awarding Authority or the Commission on forms and in accordance with instructions issued by either of them and will permit access to its facilities and any books, records, accounts, and other sources of information which may be determined by the Awarding Authority or the Commission to affect the employment of personnel. This provision shall apply only to information pertinent to the Owner's supplementary affirmative action Contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Awarding Authority or the Commission as appropriate and shall set forth what efforts he has made to obtain the information.

4. Sanctions.

A. Whenever the Awarding Authority, the Commission, or the Liaison Committee believes the Contractor, or any Subcontractor may not be operating in compliance with the terms of this Article, the Commission shall directly, or through its designated agent, conduct an appropriate investigation, and may confer with the parties to determine if such Contractor is operating in compliance with the terms of this Article. If the Commission or its agent finds the Contractor or any Subcontractor not in compliance, it may make a preliminary report on non-compliance and notify such Contractor in writing of such steps as will in the judgment of the Commission or its agent bring such Contractor into compliance. If such Contractor fails or refuses to fully perform such steps, the Commission may make a final report of non-compliance and recommend to the Awarding Authority the imposition of one or more of the sanctions listed below. If, however, the Commission believes the Contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen days of the receipt of the recommendations of the Commission, the Awarding Authority shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:

(1) The recovery by the Awarding Authority from the Contractor of 1/100 of 1% of the Contract award price or \$1,000 whichever sum is greater, in the nature of liquidated damages or, if a Subcontractor is in non-compliance, the recovery by the Awarding Authority from the Contractor, to be assessed by the Contractor as a back charge against the subcontractor, of 1/10 of 1% of the sub-contract price, or \$400 whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply.

(2) The suspension of any payment or part thereof due under the Contract until such time as the Contractor or any subcontractor can demonstrate his compliance with the terms of the Contract.

- (3) The termination, or cancellation, of the Contract, in whole or in part, unless the Contractor or any Subcontractor can demonstrate within a specified times his compliance with the terms of the contract.
- (4) The denial to the Contractor or any subcontractor of the right to participate in any future contracts awarded by the Awarding Authority for a period of up to three years.

B. If any time after the imposition of one or more of the above sanctions a Contractor can demonstrate that it follows this Article, the Contractor may request the Awarding Authority, in consultation with the Commission, to suspend the sanctions conditionally, pending a final determination by the Commission as to whether the Contractor complies. Upon final determination of the Commission, the Awarding Authority, based on the recommendation of the Commission, shall either lift the sanctions or reimpose them.

C. Sanctions recommended by the Commission and enumerated under Section 4 above shall not be imposed by the Awarding Authority except after an adjudicatory proceeding, as that term is used in MGL, c. 30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

D. Notwithstanding the provisions of 4A-4C above, if the Awarding Authority determines after investigation that the Contractor or any Subcontractor is not in compliance with the terms of this Article, it may suspend any payment or portion thereof due under the Contract until the contractor demonstrates to the satisfaction of the Awarding Authority compliance with the terms of this Article. This temporary suspension of payments by the Awarding Authority is separate from the sanctions set forth in Section 4A-4C of this Article above, which are determined by MCAD and recommend to the Awarding Authority. Payment may be suspended only after the Contractor and any other interested party shall have been given the opportunity to present evidence in support of its position at an informal hearing held by the Awarding Authority, and the Awarding Authority has concluded upon review of all the evidence that such penalty is justified. Payment shall not be suspended if the Awarding Authority finds that the Contractor made its best efforts to comply with this Article, or that some other justifiable reason exists for waiving the provisions of this Article in whole or in part.

APPENDIX B to General Conditions of the Contract

The following provisions from Article XIII of the General Conditions of the Contract where DCR is the Awarding Authority.

GOALS FOR PARTICIPATION BY MINORITY BUSINESS ENTERPRISES AND WOMEN BUSINESS ENTERPRISES (EXECUTIVE ORDER 390, MGL, c. 7, s. 40N)

1. Goals.

A. The goals for minority business enterprise and women business enterprise participation established for this Contracts are as set forth in the Owner – Contractor Agreement.

B. The Contractor and all Subcontractors, sub-subcontractors, and materials suppliers shall comply with all the terms and conditions of this Article, which include the provisions pertaining to M/WBE participation set forth in the Owner – Contractor Agreement to meet the M/WBE participation goals established for this Contract.

2. M/WBE Participation Credit.

A. If the Contractor is itself an MBE or WBE, M/WBE participation credit will be given in an amount equal to the entire Contract Price. If the Contractor is not an MBE or WBE then M/WBE participation credit will be given for the value of the Work that is performed by each MBE or WBE subcontractor or subcontractor.

B. If the Contractor is a joint venture with one or more M/WBE joint venturers, M/WBE participation credit shall be given to the joint venture as follows:

(1) If the joint venture is certified by SOMBWA as an MBE or WBE, M/WBE participation credit shall be given in an amount equal to the Contract Price.

(2) If the joint venture is not certified as an MBE or WBE by SOMWBA, M/WBE participation credit shall be given to the joint venture for the value of the Work that is performed by the M/WBE joint ventures(s), and for the value of the Work that is performed by each MBE or WBE subcontractor or sub-subcontractor.

C. MBE participation credit shall be given for the work performed by MBEs only, and WBE participation credit shall be given for the work performed by WBEs only. MBE participation may not be substituted for WBE participation, nor may WBE participation be substituted for MBE participation.

3. Establishing M/WBE Status.

A. A minority-owned business shall be considered an MBE only if it has been certified as a minority business enterprise by the State Office of Minority and Women Business Assistance (“SOMWBE”).

B. A woman-owned business shall be considered a WBE only if it has been certified as a woman business enterprise by SOMWBA.

C. Certification as a disadvantaged business enterprise (“DBE”), certification as an M/WBE by any agency other than SOMWBA, or submission of an application to SOMWBA for certification as an M/WBE shall not confer M/WBE status on a firm for the purposes of this Contract.

4. Subcontracts with M/WBEs.

Within thirty (30) days after the award of this Contract, the Contractor shall (i) execute a subcontract with each M/WBE Subcontractor which has executed a Letter of Intent approved by the Awarding Authority, (ii) cause its Subcontractors to execute a sub-subcontract with each M/WBE sub-subcontractor, and (iii) furnish the Awarding Authority with a signed copy of each such subcontract and sub-subcontract.

5. Performance of Contract Work by M/WBEs.

A. The Contractor shall not perform with its own organization or subcontract or assign to any other firm work designated to be performed by any W/MBE in the Letters of Intent or Schedule of M/WBE Participation without the prior Approval of the Awarding Authority, nor shall any M/WBE assign or subcontract to any other firm or permit any other firm to perform any of its M/WBE Work without the prior Approval of the Awarding Authority. Any such unapproved assignment, subcontracting, sub-subcontracting, or performances of M/WBE Work by others shall be a change in the M/WBE Work for the purposes of this Contract. The Awarding Authority WILL NOT APPLY TO THE M/WBE PARTICIPATION GOALS(S) ANY SUMS ATTRIBUTABLE TO SUCH UNAPPROVED ASSIGNMENTS, SUB-CONTRACTS, SUB-SUBCONTRACTS, OR PERFORMANCE OF M/WBE WORK BY OTHERS.

B. The Contractor shall be responsible for monitoring the performance of M/WBE Work to ensure that each scheduled M/WBE performs its own M/WBE Work with its own workforce.

C. The Contractor and each M/WBE shall provide the Awarding Authority with all information and documentation that the Awarding Authority determines is necessary to ascertain whether an M/WBE has performed its own M/WBE Work. At the discretion of the Awarding Authority, failure to submit such documentation to the Awarding Authority shall establish conclusively for the purpose of giving M/WBE participation credit under this Contract that such M/WBE did not perform such work.

6. Notification of Changes in M/WBE Work.

A. If any time during the performance of the Contract the Contractor determines or has reason to believe that a scheduled M/WMBE is unable to unwilling to perform its M/WBE Work, or that there has been or will be a change in any M/WMBE Work, or that the Contractor will be unable to meet the M/WBE participation goal(s) for this Contract for any reason, the Contractor shall immediately notify the Awarding Authority Contract Compliance Office in writing of such circumstances.

B. Any notice of a change in M/WBE Work pursuant to subparagraph “A: above shall include a revised Schedule of M/WBE Participation, and additional or amended Letters of Intent and subcontracts.

7. Actions Required if there is a Reduction in M/WBE Participation.

A. In the event there is a change or reduction in any M/WBE Work which will result in the Contractor failing to meet the M/WBE participation goal(s) for this Contract, other than a reduction in

M/WBE Work resulting from a Change Order initiated by the Awarding Authority, then the Contractor shall immediately undertake a diligent, good faith effort to make up the shortfall in M/WBE participation as follows:

(1) The Contractor shall identify all items of the Work remaining to be performed under the Contract that may be made available for subcontracting to W/MBEs. The Contractor shall send a list of such items of work to the Awarding Authority, together with a list of the remaining items of the Work that was not made available to M/WBEs and the reason for not making such work available for subcontracting to M/WBEs.

(2) The Contractor shall send written notices soliciting proposals to perform the items of the Work that may be made available for subcontracting to W/MBEs to all W/MBEs qualified to perform such work. The Contractor shall advise the Awarding Authority of (i) each W/MBE solicited, and (ii) each W/MBE listed in the SOMWBA directory under the applicable trade category who was not solicited and the reasons, therefore. The Contractor shall also advise the Awarding Authority of the dates notices were mailed and provide a copy of the written notice(s) sent.

(3) The Contractor shall make reasonable efforts to follow up the written notices sent to M/WBEs with telephone calls or personal visits to determine with certainty whether the M/WBEs were interested in performing the work. Phone logs or other documentation must be submitted to the Awarding Authority evidencing this effort.

(4) The Contractor shall make reasonable efforts to assist M/WBEs that need assistance in obtaining insurance, bonds, or lines of credit to perform work under the Contract and shall provide the Awarding Authority with evidence that such efforts were made.

(5) The Contractor shall provide the Awarding Authority with a statement of the response received from each M/WBE solicited, including the reason for rejecting any M/WBE who submitted a proposal.

(6) The Contractor shall take any additional measures reasonably requested by the Awarding Authority to meet the M/WBE participation goal(s) established for this Contract, including, without limitation, placing advertisements in appropriate media and trade association publications announcing the Contractor's interest in obtaining proposals from M/WBEs, and/or sending written notification to M/WBE economic development assistance agencies, trade groups and other organizations notifying them of the project and of the work available to be subcontracted by the Contractor to M/WBEs.

B. If the Contractor is unable to meet the M/WBE participation goals for this Contract after complying fully with each of the requirements of paragraph "A" above, and the Contractor is otherwise in full compliance with the terms of this Article, the Awarding Authority may reduce the M/WBE participation goals for this Contract to the extent that such goals cannot be achieved.

8. Suspension of Payment and/or Performance for Noncompliance.

A. If at any time during the performance of this Contract, the Awarding Authority determines or has reason to believe that (1) there has been a change or reduction in any M/WBE Work which will result in the Contractor failing to meet the M/WBE participation goal(s) for this Contract, other than a reduction in M/WBE Work resulting from a change in the Contract work ordered by the Awarding Authority, and (2) the Contractor has failed to comply fully with all of the terms and conditions of paragraphs 1 through 7 above, the Awarding Authority may:

(1) suspend payment to the Contractor of an amount equal to the value of the work which was to have been performed by an M/WBE pursuant to the Contractor's Schedule of M/WBE Participation, but which was not so

performed, to ensure that sufficient Contract funds will be available if liquidated damages are assessed pursuant to paragraph 9 and/or

(2) suspend the Contractor's performance of this Contract in whole or in part.

B. The Awarding Authority shall give the Contractor prompt written notice of any action taken pursuant to paragraph A above and shall give the Contractor and any other interested party, including any M/WBEs, an opportunity to present evidence to the Awarding Authority that the Contractor is in compliance with the requirements of this Article, or that there is some justifiable reason for waiving the requirements of this Article in

whole, or in part. The Awarding Authority may invite SOMWBA and the Massachusetts Commission Against Discrimination to participate in any proceedings undertaken pursuant to this paragraph.

C. Upon a showing that the Contractor is in full compliance with the requirements of this Article, or that the Contractor has met or will meet the M/WBE participation goals for this Contract, the Awarding Authority shall release any funds withheld pursuant to clause A(1) above and lift any suspension of the Contractor's performance under clause A(2) above.

9. Liquidated Damages; Termination.

A. If payment by the Awarding Authority or performance by the Contractor is suspended by the Awarding Authority as provided in paragraph 8 above, the Awarding Authority shall have the following rights and remedies if the Contractor thereafter fails to take all action necessary to bring the Contractor into full compliance with the requirements of this Article, or if full compliance is no longer possible because the default of the Contractor is no longer susceptible to cure, if the Contractor fails to take such other action as may be required by the Awarding Authority to meet the M/WBE participation goals set forth in this Contract:

(1) the Awarding Authority may terminate this Contract, and/or

(2) the Awarding Authority may retain from final payment to the Contractor, as liquidated damages, an amount equal to the difference between (x) the total of the M/WBE participation goals set forth in this Contract, and (y) the amount of M/WBE participation credit earned by the Contractor for M/WBE Work performed under this Contract as determined by the Awarding Authority, the parties agreeing that the damages for failure to meet the M/WBE participation goals are difficult to determine and that the foregoing amount to be retained by the Awarding Authority represents the parties' best estimate of such damages. Any liquidated damages will be assessed separately for MBE and WBE participation.

B. Before exercising its rights and remedies hereunder, the Awarding Authority may, but the Awarding Authority shall not be obligated to, give the Contractor and any other interested party another opportunity to present evidence to the Awarding Authority that the Contractor is in compliance with the requirements of this Article or that there is some justifiable reason for waiving the requirements of this Article in whole or in part. The Awarding Authority may invite SOMWBA and the Massachusetts Commission Against Discrimination to participate in any proceedings undertaken hereunder.

10. Reporting Requirements.

The Contractor shall submit to the Awarding Authority all information or documentation that is necessary in the judgment of the Awarding Authority to ascertain whether the Contractor has complied with any of the provisions of this Article.

11. Awarding Authority's Right to Waive Provisions of this Article in Whole or in Part.

The Awarding Authority reserves the right to waive any provision or requirement of this Article if the Awarding Authority determines that such waiver is justified and in the public interest. No such waiver shall be effective unless in writing and signed by a representative of the Awarding Authority's Compliance Office or the office of its General Counsel. No other action or inaction by the Awarding Authority shall be construed as a waiver of any provision of this Article.

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION**

**SPECIAL GOOD FAITH REQUIREMENTS FOR PARTICIPATION BY VETERAN OWNED
BUSINESS ENTERPRISES**

**(Implementing Executive Order No. 546, Establishing the Veteran Owned Business
Enterprise Program).**

BIDDER'S INSTRUCTIONS

THE APPARENT LOW BIDDER'S COMPLIANCE WITH THE REQUIREMENTS OF THIS SECTION IS A PREREQUISITE FOR RECEIVING THE AWARD OF THE CONTRACT.

1) Participation Goals and Program Operation

In order to be an eligible VOB for the participation goals of this Contract, the business enterprise must be listed as a veteran-owned business within the VetBiz database, located at www.VetBiz.gov, at the time of the bid submission deadline. Only a VOB identified as a veteran-owned small business via the VetBiz database shall count towards meeting the Program participation goal.

The Contractor must demonstrate that VOBs are eligible for the following participation goals via its listing as a veteran-owned small business within the VetBiz database, located at www.VetBiz.gov, at the time said VOB seeks to participate in business provided under this Contract; provided, that it shall also be the responsibility of the Awarding Authority to verify the status of the SDVOB via said VetBiz database prior to the awarding of the Contract.

a) Design Services Contracts – In furtherance of the goals and objectives of the program, commencing July 1, 2013 until such time as the Secretary for Administration and Finance has adopted a new participation goal, the participation goal, which shall be expressed in the form of a benchmark for each design services contract, shall be three (3) percent; provided, that said participation goal may be met by the veteran-owned business enterprise performing as either a general or prime contractor, a subcontractor, or both; provided further, that the awarding agency shall verify the status of business enterprise participation on a design services contract.

b) Public Construction Contracts – In furtherance of the goals and objectives of the Program, commencing July 1, 2013 until such time as the Secretary of Administration and Finance has adopted a new participation goal, the participation goal, which shall be expressed in the form of a benchmark for each public construction contract, shall be three (3) percent; provided, that said participation goal may be met by the veteran-owned business enterprise performing as either a general or prime contractor, a subcontractor, or both; provided further, that the awarding agency shall verify the status of a service veteran-owned business enterprise prior to said business enterprise participation on a public construction contract.

2) Goal Reduction/Waiver

- A) The Awarding Authority reserves the right to reduce or waive the SDVOBE participation goals established for this Contract upon written request made by a Bidder using the VOB E Waiver Request Form provided by the Awarding Authority.
- B) If filed Sub-Bids are solicited for this Contract, requests from prospective general Bidders to reduce or waive the VOB E participation goals for this Contract should be received by the Awarding Authority no later than four (4) working days after the list of filed Sub- Bidders is mailed by the Awarding Authority to persons who have taken out plans for the Contract, using the VOB E Waiver Request Form provided by the Awarding Authority.
- C) If there are no filed sub-Bids solicited for this Contract, requests to reduce or waive the SDVOBE participation goals for this Contract should be received by the Awarding Authority no later than five (5) working days before the date set for the receipt of general Bids. **THE AWARDING AUTHORITY RESERVES THE RIGHT TO REJECT ANY REQUEST TO REDUCE OR WAIVE THE VOB E PARTICIPATION GOALS FOR THIS CONTRACT THAT IS RECEIVED AFTER THESE DEADLINES.** Such written request must demonstrate to the satisfaction of the Awarding Authority that it is not feasible for a non- VOB E or non- VOB E general Bidder to meet the goals established for this Contract based upon any or all the following:
- a) actual VOB E availability.
 - b) the geographic location of the project to the extent related to SDVOBE availability.
 - c) the scope of the work.
 - d) the percentage of work available for subcontracting to VOB Es; and/or
 - e) other relevant factors, including a **documented** inability by the prospective Bidder to obtain commitments from VOB E subcontractors sufficient to meet the VOB E goals after having made a diligent, good faith effort to do so. All the foregoing documentation shall accompany the completed Waiver Request Form. Such documentation shall include, at a minimum, the following:
 - A list of all items of work under the Contract that the Bidder made available for subcontracting to VOB Es. The Bidder shall identify all items of work, other than work to be performed by filed sub-Bidders, that the Bidder did not make so available and shall state the reasons for not making such work available for subcontracting to VOB Es. The Bidder shall also demonstrate that, where commercially reasonable, subcontracts were divided into units capable of being performed by VOB Es.
 - Evidence that the Bidder sent written notices soliciting Bids or proposals to perform the items of work made available by the Bidder for subcontracting to all available VOB Es qualified to perform such work. The Bidder shall identify each VOB E solicited, state the dates that notices were mailed, provide a copy of the written notice(s) sent, and provide a copy of any statement or response received from each VOB E solicited, including the reason for rejecting and VOB E who submitted a bid or proposal.
 - Evidence that the Bidder made reasonable efforts to follow up on the written

notices sent to VOBES with telephone calls or personal visits to determine with certainty whether the VOBES were interested in performing the work. Phone logs or other documentation must be submitted.

- Evidence of efforts made to assist VOBES that needed assistance in obtaining bonding or insurance, or lines of credit with suppliers if the inability of SDVOBE to obtain bonding, insurance, or lines of credit is the reason given for the Bidder's inability to meet the VOBES goals.

D) The Bidder may also submit any other information supporting its request for a waiver or reduction in the VOBES participation goals, including without limitation evidence that the Bidder placed advertisements in appropriate media and trade association publications announcing the Bidder's interest in obtaining bids or proposals from VOBES, and/or sent written notification to VOBES economic development assistance agencies, trade groups and other organizations notifying them of the Contract and the work to be subcontracted by the Bidder to VOBES. The Bidder shall also submit any other information reasonably requested by the Awarding Authority to show that the Bidder has taken all actions that could reasonably be expected to achieve the VOBES participation goals.

- 3) No later than five (5) working days after the opening of general Bids, the apparent low Bidder shall submit the following documents to the Awarding Authority's Contract Officer:
 - (i) a completed Schedule for Participation by VOBES ("Schedule for Participation") in the form provided by the Awarding Authority showing VOBES participation in amounts equal to or exceeding the VOBES participation goals for this Contract; and
 - (ii) a completed Letter of Intent in the form provided by the Awarding Authority for each SDVOBE listed in the Schedule for Participation.
- 4) Each Letter of Intent shall identify and describe the work to be performed by the named VOBES (the "VOBES Work") with enough specificity to permit the Awarding Authority to identify the items of contract work that the VOBES will perform for VOBES participation credit. The Awarding Authority reserves the right to reject any Letter of Intent if the price to be paid for the VOBES Work does not bear a reasonable relationship to the value of such work under the Contract as determined by the Awarding Authority.
- 5) Within five (5) working days after receipt of the Schedule for VOBES Participation and Letters of Intent, the Awarding Authority shall review and either approve or disapprove the apparent low Bidder's submissions. If the apparent low Bidder has not submitted an appropriate Schedule for VOBES Participation and appropriate Letters of Intent establishing that the VOBES participation goal for the project will be met, the apparent low Bidder will be considered ineligible for Award of the Contract and the Awarding Authority will Award the Contract to the second lowest Bidder, subject to said Bidder's compliance with these conditions.
- 6) The Contractor is required to submit to the Awarding Authority signed subcontracts with all subcontractors prior to the commencement of work to be performed under these contracts, and/or a purchase order or invoice from each material supplier and/or manufacturer listed on the Schedule for VOBES Participation within thirty (30) days of the issuance of the Notice to Proceed by the Awarding Authority.
- 7) A filed Sub-Bidder is not required to submit a Schedule for VOBES Participation with its Bid. A filed Sub-Bidder may, at its option, submit a Letter of Intent with its Bid if it is a VOBES. If a filed sub-Bidder intends to sub-subcontract work to a VOBES, and the filed sub-Bidder wishes

that sub-subcontract to be credited toward the participation goals for this Contract, the filed sub-Bidder should submit a Letter of Intent from that VOB E with its Bid. A filed sub-Bidder can subcontract out up to 20% of its work to VOB Es, unless such work is designated as sub-subcontract Paragraph E work in the Bid Documents, in which case the 20% cap does not apply.

This is a:

☐ **Design Contract**

☐ **Construction contract**

The goal for this contract is Three (3 %) percent of the value of the contract unless waived in part or whole by DCR in writing.

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION**

**SPECIAL GOOD FAITH REQUIREMENTS FOR PARTICIPATION BY VETERAN OWNED
BUSINESS ENTERPRISES
(Implementing Executive Order No. 638, Promoting the Equitable Participation of Women
and Underrepresented Groups in Construction)**

BIDDER'S INSTRUCTIONS

THE APPARENT LOW BIDDER'S COMPLIANCE WITH THE REQUIREMENTS OF THIS
SECTION IS A PREREQUISITE FOR RECEIVING THE AWARD OF THE CONTRACT.

Pursuant to Executive Order No. 638: Promoting the Equitable Participation of Women and Underrepresented Groups in Construction ("EO No. 638"), bidders shall include in their bid submission a Plan of the how they plan to:

1. encourage the use of registered apprentices for the performance of the Work.
2. develop strong workforce equity practices.
3. partner with worker-serving organizations with a track record of reaching women and underrepresented groups; and
4. provide support services, including childcare, to facilitate the participation of women and underrepresented groups on the Work to be performed under the contract.

In addition, bidders are hereby notified that the contract shall include, and it shall be a requirement that any subcontract shall include, the following data collection and reporting obligations, at appropriate intervals, required by EO No. 638:

1. workforce needs, which may include the expected number of jobs, job hours, and job hours by occupation.
2. workforce demographics, consistent with but not limited to the requirements of M.G.L. c. 7C, §6 and M.G.L. c. 149, §44A, which may include race, gender, zip code, and other workforce characteristics.
3. benefits and supportive services provided to workers.
4. Hours worked by all employees, including women and people of color, by trade and position; and
5. Apprenticeship participation and pre-apprenticeship program completion statistics.

The Contractor shall submit to the Awarding Authority all information or documentation that is necessary in the judgment of the Awarding Authority to ascertain whether the Contractor has complied with any of the provisions of this Article.

APPENDIX C to the General Conditions of the Contract

INDEX OF THE COMMONLY USED FORMS

(Forms used during bidding are in Attachment B to the Instructions to Bidders)

Contractor's Weekly Workforce Report

Minorities/Women in Contractor's Weekly Workforce Report

Weekly Payroll Report Form and Statement of Compliance

Certification of Payment by Contractor to MBE/WBE and Instructions

Certificate of Completion by Minority/Women Business Enterprise

Certificate of Final Inspection, Release and Acceptance – E-2

CONTRACTOR'S WEEKLY WORKFORCE REPORT
THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

DCR Project No. _____ Project Name _____ Project Location _____

Name of General Contractor _____ Minority Goal % _____ Women Goal %

Name of Contractor Filing Report _____ Address _____

Week Ending _____ Report No. _____ Date Work Began _____ Date work completed _____

NOTE: **Min. = Minority** **Wom. = Women** ☐ Check here if this is a final report

Job Category	Number of Employees	Number of Employees Who Are		Total Weekly Workforce Hours	Total Weekly Workforce Hours		Weekly % Workforce Hours		Total Workforce Hours To Date	Total Workforce Hours to Date		% Of Workforce Hours to Date	
		Min.	Wom.		Min.	Wom.	Min.	Wom.		Min.	Wom.	Min.	Wom.
TOTALS:													

Mail with Weekly Payroll report to the assigned Project Manager at:

Department of Conservation & Recreation
Project Manager Name
 10 Park Plaza
 Boston, MA 02116

The undersigned hereby certifies under pains and penalties of perjury that the above information is true and accurate.

Authorized Signature _____ Date _____

Print Name _____ Title _____

Telephone No. _____ FAX No. _____

DCR Part III General Conditions of the Contract

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MINORITIES/WOMEN IN CONTRACTOR'S WEEKLY WORKFORCE REPORT
THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

DCR Project No. _____ Project Name _____

Name of General Contractor _____

Project Location _____

Name of Contractor Filing Report _____

Address _____

Week Ending _____ Report No. _____

JOB CATEGORY	NAME OF EMPLOYEE	MINORITY GROUP	GENDER

In contract Article XII, "Minority" refers to: Asian-Americans, Blacks, Western Hemisphere Hispanics, Native Americans, and Cape Verdeans

WEEKLY PAYROLL REPORT FORM
THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

DCR Project No. _____ Project Name _____

Project Location _____

Name of General Contractor _____

Name of Contractor Filing Report _____

Address _____

Week Ending _____ Date Work Began _____ Date work completed _____

Report No. _____ ☐ Check here if this is a final report

Employee Name & Address	Work Classification	Hours Worked							(A) Total Hours	(B) Hourly Base Wage	Employer Contributions			(F) [B+C+D+E] Hourly Total Wage (prev.	(G) [A*F] Weekly Total Amount
		S	M	T	W	T	F	S			(C) Health & Welfare	(D) Pension	(E) Supp. unemplo yed		

NOTE: Every contractor and subcontractor are required to submit a copy of their weekly payroll records to DCR. The undersigned states under the pains & penalties of perjury that the above provided and attached information is a true and accurate record of each person employed on the project and the hours worked and wages paid to each such employee, including payments to the referenced benefits. M.G.L. c. 149 §27B.

Authorized signature _____

Print Name _____

Print Title _____

Mail to: Department of Conservation and Recreation
Project Manager Name
 10 Park Plaza
 Suite 6620
 Boston, MA 02116

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works construction project for which the enclosed rates have been provided. The ***Weekly Payroll Report Form*** includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the project.

In addition, every contractor and subcontractor are required to submit a copy of their weekly payroll records to the awarding authority. This is required to be done on a weekly basis. Once collected, the awarding authority is also required to preserve those records for three years.

In addition, each such contractor, subcontractor, or public body shall furnish **to the Executive Office of Labor**, within fifteen days after completion of its portion of the work, a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

Date: _____ / _____ / _____

I, _____, _____
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor, or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs, and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty-nine of the General Laws.

Signature _____

Title _____

CERTIFICATE OF PAYMENT

BY CONTRACTOR/DESIGNER TO MINORITY, WOMEN BUSINESS
& VETERAN OWNED BUSINESS ENTERPRISES

TO: Supplier Diversity Reports
Department of Conservation and
Recreation ,10 Park Plaza
Suite 6620,Boston,MA 02116

Reporting Period: Fiscal Year 20__

RE: Project:
Project Number:

Contract Start Date:

The undersigned hereby certifies under the pains and penalties of perjury that the vendor named below has made the following payments to the named Minority, Women Business and Veteran Owned Enterprises for work performed on the above project:

Firm Name of General Contractor:

Authorized Signature

Date

Print Name

Print Title

Phone Number

Email address

Work performed/payments made (use additional pages if needed):

	Firm Name	Work Performed	Subcontract Amount	Payments This Quarter	FY Payments to date (This fiscal year)	Cumulative Payments (Total payments over the life of the contract)
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$
☐ MBE ☐ WBE ☐ VOB			\$	\$	\$	\$

* MBE, WBE and VOB payment reports are required for each quarter of the fiscal year for each of your DCR projects. Reports are to cover the following three-month periods: 1st quarter, July 1st – September 30th; 2nd quarter, October 1st – December 31st; 3rd quarter, January 1st – March 31st; 4th quarter, April 1st – June 30th. Reports must be submitted within 10 business days of your receipt of this form.

NOTICE: *Intentionally submitting false information in this document may subject the contractor/ designer to criminal prosecution and/ or debarment from public contracting.*

INSTRUCTIONS FOR COMPLETING CERTIFICATE OF PAYMENT

As part of its effort to ensure reliable, up-to-date information concerning the actual payments made to certified MBE, WBE and VOB E subcontractors on all DCR projects, we have prepared these instructions to assist you in completing the enclosed form. **PLEASE READ THESE INSTRUCTIONS CAREFULLY. DCR WILL RETURN ANY CERTIFICATION OF PAYMENT THAT IS INCOMPLETE OR INACCURATE.**

PLEASE NOTE: IF THIS PROJECT IS COMPLETE, ON HOLD, OR YOUR FIRM PREVIOUSLY SUBMITTED A **FINAL** CERTIFICATION OF M/WBE/VOBE PAYMENT FOR THIS PROJECT, PLEASE SO, INDICATE ON THE FORM AND RETURN IT TO: SUPPLIER DIVERSITY REPORTS, DEPARTMENT OF CONSERVATION AND RECREATION, 10 Park Plaza, Suite 6620
Boston, MA 02116

PLEASE INCLUDE THE FOLLOWING INFORMATION IN THE DESIGNATED SECTIONS OF THE FORM:

FIRM NAME: Include the M/WBE/VOBEs listed on the project's approved Schedule for Participation and any additional M/WBE/VOBEs that worked on the project. Be sure to check M/WBE/VOBE category for which they are certified. Note that any change in M/WBE/VOBEs participation used to meet the project goals must be pre-approved by the Project Manager or Engineer responsible for this project and a revised M/WBE/VOBE Schedule of Participation will be required. Contact the DCR Supplier Diversity coordinator immediately if you anticipate or have any changes in M/WBE/VOBE participation on this project.

WORK PERFORMED: Include a brief description of the work performed by each subcontractor listed. The description should match the M/WBE/VOBE Letter of Intent and approved Schedule of Participation. M/WBE/VOBEs must be certified in the category of work performed on this project for firms used to meet the project M/WBE/VOBE goals.

SUBCONTRACT AMOUNT: Include the contract or subcontract amounts listed on the M/WBE/VOBE Letters of Intent and approved Schedule of Participation. If the value of an MBE/WBE/VOBE contract or subcontract has decreased or increased for any reason, you must contact the Project Manager or Engineer responsible for this project immediately. If additional M/WBE/VOBE firms not listed on the Schedule for Participation worked on this project list the amount of their subcontracts.

PAYMENTS THIS QUARTER: Include the amount you paid the M/WBE/VOBE subcontractor, either directly or indirectly, for work performed on this project during the three-month period covered by this Certification of Payment. If the amount paid was zero, please indicate that. Do not include payments from previous periods or estimated future payments in this column. Please note that you may be required to submit copies of cancelled checks to verify the amounts reported for firms used to meet the project's M/WBE/VOBE goals.

FY PAYMENTS TO DATE: Include the total amount you paid the M/WBE/VOBE subcontractor, either directly or indirectly, for work performed on this project for all quarters in **this fiscal year**. To ensure accurate reporting, please review the prior Certifications of Payments previously submitted for this project. Where necessary, correct any earlier mathematical or reporting errors and submit revised Certifications of Payment.

CUMULATIVE PAYMENTS: Include the total amount you paid the M/WBE/VOBE subcontractor, either directly or indirectly, for work performed over the entire life of this project (all quarters).

IF YOU HAVE ANY QUESTIONS, CONTACT DCR Supplier Diversity coordinator at 617.626.4925

CERTIFICATE OF COMPLETION
BY MINORITY/WOMEN BUSINESS/VETERAN OWNED BUSINESS ENTERPRISE
DEPARTMENT OF CONSERVATION AND RECREATION

TO: Supplier Diversity Reports
Department of Conservation and
Recreation 10 Park Plaza
Suite 6620, Boston, MA 02116

Reporting Period: Fiscal Year

RE: Project:
Project Number:
General Contractor:

Contract Start Date:

The undersigned hereby certifies under the pains and penalties of perjury that the vendor named below has received the payments to the named Minority, Women Business and Veteran Owned Enterprises for work performed on the above project:

Firm Name of Subcontractor:

Print Name

Print Title

Phone Number

Email address

DESCRIPTION OF WORK (AS SHOWN IN LETTER OF INTENT)

BRIEF DESCRIPTION OF ACTIVITY: (Note "Labor Only," "Material Only," "Material and Labor," "Complete")

Original Subcontract Amount \$ _____

Adjusted Subcontract Amount (Change Orders, etc.) \$ _____

Total Payments Received to Date from Prime Contractor \$ _____

Balance Due from Prime Contractor \$ _____

If the completed activity is different from that listed on the Letter of Intent, please explain: _____

(If more space is needed, continue back of sheet)

The individuals signing below hereby certify under the pains and penalties of perjury that all work listed on the Contract Letter of Intent (or approved changes thereto as explained above) was completed by the MBE/WBE/VOBE firm on _____, 20____ and the above amounts listed for these services are true and accurate.

FOR CONTRACTOR

FOR MBE/WBE/VOBE FIRM

Authorized Signature

Authorized Signature

Print Name

Print Name

NOTE: To be submitted to the DCR Compliance Office within ten (10) days after completion of work by MBE/WBE/VOBE.

**E-2 Final Acceptance
Certificate of Final Inspection, Release and Acceptance**

Title: _____

Location: _____

Contractor: _____

This is to certify that a complete inspection of the above-referenced project was made on _____ by the undersigned, and that the entire work was completed in accordance with the plans and specifications. The undersigned recommends acceptance of the project.

_____	by: _____	Title: _____	Date: _____
Signature	Designer		Authorized

_____	Date	_____	Date
Resident Engineer		Project Manager	
_____	Date		
Project Engineer			

CERTIFICATE OF RELEASE

1.) The undersigned hereby certifies that all work has been completed in accordance with the plans, specifications, and contract documents and that all change orders have been supported pursuant to Article VII of the General Conditions of the Contract.

2.) Contract Award Price: \$	Adjusted Contract Price: \$
Authorized Additions: \$	Paid to Date: \$
Authorized Deductions: \$	Balance Due: \$

3.) The undersigned further certifies that in addition to the amount set forth above, there are outstanding and unsettled the following change orders as submitted to the DCR.

Request No.	Date:	Amount:
Request No.	Date:	Amount:
Request No.	Date:	Amount:

Subject to satisfactory disposition of change orders listed in Item 3 above, the undersigned releases the Commonwealth of Massachusetts from all further claims for wages or payments to subcontractors or suppliers except: (list on attached sheet).

_____	by: _____
Contractor	Authorized Signature
The above-referenced project is accepted as of _____	
	Date

Deputy Commissioner, Engineering
Deputy Director
Project Manager Resident
Engineer
Office of Contract Administration
Contractor



BID PACKAGE

PART IV

SPECIAL CONDITIONS OF THE CONTRACT



Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: MEDFORDEANDE

Transaction ID: 1997509

Document: WPA Form 5 - OOC

Size of File: 152.15K

Status of Transaction: In Process

Date and Time Created: 3/10/2026:3:48:51 PM

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 MassDEP File #:215-0245
 eDEP Transaction
 #:1997509
 City/Town:MEDFORD

A. General Information

1. Conservation Commission	MEDFORD		
2. Issuance	a. ☒ OOC	b. ☐ Amended OOC	
3. Applicant Details			
a. First Name			b. Last Name
c. Organization	MA DCR OFFICE OF DAM SAFETY		
d. Mailing Address	180 BEAMAN STREET		
e. City/Town	WEST BOYLSTON	f. State	MA
		g. Zip Code	01583
4. Property Owner			
a. First Name	PRISCILLA	b. Last Name	GEIGIS
c. Organization	MA DEPARTMENT OF CONSERVATION AND RECREATION		
d. Mailing Address	10 PARK PLAZA, SUITE 6620		
e. City/Town	BOSTON	f. State	MA
		g. Zip Code	02116-3978
5. Project Location			
a. Street Address	BELLEVUE POND, MIDDLESEX FELS		
b. City/Town	MEDFORD	c. Zip Code	02155
d. Assessors	NA	e. Parcel/Lot#	NA
Map/Plat#		f. Longitude	71.10724W
f. Latitude	42.43115N		
6. Property recorded at the Registry of Deed for:			
a. County	b. Certificate	c. Book	d. Page
SOUTHERN MIDDLESEX			
7. Dates			
a. Date NOI Filed : 1/13/2026	b. Date Public Hearing Closed: 2/18/2026	c. Date Of Issuance: 3/10/2026	
8. Final Approved Plans and Other Documents			
a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date: e. Scale:
BELLEVUE POND			
DAM PROPOSED	GZA		February 2025
ENGINEERING	ENVIRONMENTAL		
SERVICES			

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act

Following the review of the the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☐ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☒ Prevention of Pollution
d. ☐ Private Water Supply	e. ☐ Fisheries	f. ☐ Protection of Wildlife Habitat
g. ☐ Ground Water Supply	h. ☒ Storm Damage Prevention	i. ☒ Flood Control



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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eDEP Transaction #:1997509

City/Town:MEDFORD

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

- a. ☒ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

- b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a).

a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☒ Bank	78 a. linear feet	78 b. linear feet	78 c. linear feet	78 d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☒ Land under Waterbodies and Waterways	1723 a. square feet	1723 b. square feet	1723 c. square feet	1723 d. square feet
	81 e. c/y dredged	81 f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage				



Massachusetts Department of Environmental Protection
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	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☒ Riverfront Area	339	339		
	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	339	339		
	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	0	0		
	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	c. c/y dredged	d. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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Provided by MassDEP:

MassDEP File #:215-0245

eDEP Transaction #:1997509

City/Town:MEDFORD

22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. the work is a maintenance dredging project as provided for in the Act; or
 - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File #:215-0245

eDEP Transaction #:1997509

City/Town:MEDFORD

the words,

" Massachusetts Department of Environmental Protection"

[or 'MassDEP']

File Number : "215-0245"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☒ is not (2) ☐ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;
 - a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
 - b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures; *ii.* as-built final construction



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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eDEP Transaction #:1997509

City/Town:MEDFORD

BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.*) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.*) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.
- g) The responsible party shall:
 - 1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 - 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 - 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.



**Massachusetts Department of Environmental
Protection**

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

SUPPLEMENTAL ORDER OF CONDITIONS ATTACHED TO SUBMITTAL



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☒ No

2. The Conservation Commission hereby (check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____

2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☐ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw _____

2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

3/10/2026
 1. Date of Original Order

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

6
 2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

Heidi Davis

Erik Rexford

Jeremy Martin

☐ by hand delivery on

Date

DocuSigned by:
 Heidi Davis
 Signed by:
 2ABAC2E75E1E4B5...
 DocuSigned by:
 Erik Rexford
 Signed by:
 ABC3DE70229CE4D6...
 DocuSigned by:
 Jeremy Martin
 Signed by:
 7708D5FA13164F5...

Caroline Smith

Craig Drennan

Heather Anderson

☐ by certified mail, return receipt requested, on

Date

Signed by:
 Caroline Smith
 Signed by:
 6927EDC5F13744D...
 Signed by:
 EE48906D2A194BA...
 Heather Anderson
 Signed by:
 3FB8E85B9E75400...

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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eDEP Transaction #:1997509
City/Town:MEDFORD

subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

MEDFORD

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

MEDFORD

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

BELLEVUE POND, MIDDLESEX FELLS

Project Location

215-0245

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner PRISCILLA GEIGIS

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1/2010

**ORDER OF CONDITIONS – EXHIBIT A
DEP FILE NO. 215-0245**

Date: March 10, 2026

Project Title: Bellevue Pond Dam Rehabilitation Project

Applicant: Massachusetts Department of Transportation/Highway Division

Applicant's Representative: GZA Geoenvironmental, Inc.

Documents of Record:

- ✓ WPA Form 3 – Notice of Intent dated January 13, 2026

FINDINGS OF FACT:

The Medford Conservation Commission finds that the activities described below can be conditioned to be in compliance with the Wetlands Protection Act (M.G.L 131 Section 40) and hereby issues an Order of Conditions approving the project with the attached Special Conditions. This Order of Conditions permits the Massachusetts Department of Conservation and Recreation for the rehabilitation of the small dam spillway on the southeast boundary of Bellevue Pond. The Project involves the reconstruction of the weir located within the stone and concrete spillway, repointing and grouting to the stone wall upstream and downstream of the culvert, and improvements to project adjacent walking paths that have been damaged by erosion north of the dam to improve sheet flow. A portion of the property is within the 200-foot Riverfront Area (Floyd's Brook), Land Under Water Bodies and Waterways, and Bank and the 100-foot Buffer Zone to a Bordering Vegetated Wetlands.

SPECIAL CONDITIONS:

21. Except where modified by the following conditions, all work must be performed in accordance with the plans and the Notice of Intent referenced above. Any violation of these conditions may result in the Applicant being subject to an Enforcement Order.
22. No work shall be undertaken until all administrative appeal periods from this Order have elapsed or, if such an appeal has been filed, until all proceedings before the Department or Court have been completed.
23. The Applicant shall record this Order at the Registry of Deeds immediately after the expiration of all appeal periods as indicated in Condition #9. The recording information shall be submitted to the Medford Conservation Commission on the form at the end of this Order before any work commences. The Medford Conservation Commission, at the

Applicant's expense, may record any Order not recorded by the Applicant before work commences.[†]

24. The Medford Conservation Commission and its staff reserve the right to enter upon the premises at any time to inspect the work for compliance with the Order of Conditions.
25. This Order shall be included in all construction contracts, subcontracts, and specifications dealing with the proposed work and shall supersede any conflicting contract requirements. The Applicant shall ensure that all Contractors, Subcontractors, and other personnel performing the permitted work are fully aware of the permit's terms and conditions. Thereafter, the Contractor will be held jointly liable for any violation of the Order resulting from failure to comply with its conditions.
26. A copy of the above-referenced plans, the Notice of Intent, and this Order of Conditions must be provided to the Contractor responsible for the project's construction and completion prior to the commencement of work. The Contractor must have a copy of this Order of Conditions on site at all times while activities regulated by this Order of Conditions are being performed.[†]
27. This Order of Conditions shall apply to any successor in interest or successor in control of this property. The Conservation Commission shall be notified in writing, at the time of such transfer, of any transfer in title for all or part of the property that occurs prior to the issuance of the Certificate of Compliance. Prior to any transfer of title the Order of Conditions shall be filed at the Registry of Deeds. A lack of such required written notification to the Conservation Commission shall delay the issuance of the Certificate of Compliance.
28. The Applicant must notify the Medford Conservation Commission in writing one week before any activity commences on the project site. At the time of notice, the applicant shall provide evidence that the Order of Conditions has been filed at the Registry of Deeds. Failure to comply with pertinent conditions shall result in a directive to cease any activity. In the event that work ceases on the site for a period of time greater than five business days and inspections required by this Order are stopped, this condition shall again apply prior to recommencing work on the site. Compliance with this condition does not relieve the Applicant from complying with all other conditions. All conditions requiring additional information prior to commencing construction shall be met prior to submitting this notice.[†]

[†] Special Condition 23 requires pre-construction action

[†] Special Condition 26 requires pre-construction action

[†] Special Condition 28 requires pre-construction action

29. Any changes, alterations, or revisions to the project not included in the referenced plans must be approved by the Commission prior to their implementation. Failure to comply with this condition may subject the Applicant to an Enforcement Order. If the Commission finds, by a majority vote, said changes to be significant and/or deviate from the project plans, Notice of Intent, or the Order of Conditions, then the Commission may require that the Applicant file a Request to Amend the Order of Conditions or a new Notice of Intent. Within 21-days of the close of said Public Hearing, the Commission will issue an Amended Order or new Order of Conditions.
30. Any errors found on the plans or in the information submitted by the Applicant shall be considered as changes, and the procedures outlined in Special Condition #29 above shall be followed.
31. If siltation, erosion, or other adverse impacts to any resource areas occur, the Commission reserves the right to impose additional conditions as necessary to protect the interests of the Wetlands Protection Act.
32. The Applicant must provide three business days notice to the Medford Conservation Commission staff for work requiring the approval of the Medford Conservation staff.
33. If any unforeseen problems occur during construction that affect any of the statutory interests identified in MGL c. 131 §40 (310 CMR 10.00 *et seq.*), the Applicant shall notify the Conservation Commission upon discovery, and an immediate meeting shall be held between the Conservation Commission, the Applicant, the Applicant's Engineer, and the Contractor, and any other concerned parties, to determine the corrective measures to be employed. The Applicant shall then implement the agreed-upon corrective measures. In the event of a dispute between the meeting participants, the Commission's view shall prevail.

SEDIMENTATION CONTROLS

34. Before any construction activities begin on the site, erosion control barriers shall be installed by the contractor. No work shall begin if these barriers are not properly installed and approved by the Medford Conservation Commission or its staff.
35. No construction materials, debris, leaves, or other materials shall be deposited outside the limits of work or within wetland resource areas. To assure the continued effective removal of sediments, the Contractor will inspect the barriers weekly and after each rainfall event to determine its condition. At the time of these inspections, accumulated sediments will be removed from the barriers and damaged barriers will be repaired or replaced as necessary. Any removed sediment will be disposed at a suitable location.

36. At no time shall silt or sediment be allowed to enter the resource areas. The Conservation Commission must be notified within 24-hours if any silt or sediment enters the resource area.
37. The Commission reserves the right to require additional conditions if deemed necessary to protect the interests and resource areas as defined in MGL c. 131 §40 (310 CMR 10.00 *et seq.*). These may be required by the Conservation Commission or its staff at any time when deemed appropriate.

OPERATION AND MANAGEMENT

38. The Applicant shall provide a detailed plan for the eroded bank, providing more detail and direction on the supersacks locations that identify bounds and setbacks from existing protected vegetation, including the requested protection of existing button-bush shrubs.
39. The Applicant shall provide a detailed plan for the areas impacted by supersacks during construction.
40. The Applicant shall provide a dewatering/water management plan that identifies bypass sizing configuration and located for dewatered sediments. This plan must note that supersacks will be field-located and adjusted to minimize impact. If the Contractor plans to use filter bags, the Applicant shall provide details on placement and stabilization including a gravel pad underneath.
41. The Applicant shall provide a detailed plan of the laydown/construction area showing site control management treatments.
42. The Applicant shall provide a detailed plan of the laydown/construction area.
43. The Applicant shall indicate the proposed placement of compensatory tree replacement for the planned removal of (2) mature trees and any incidental tree removals.
44. The Conservation Commission has approved 913 square feet of temporary impact to the land underwater; 810 square feet of permanent impact to land underwater; and 78 linear feet of bank. Should alterations exceed these amounts, the Conservation Commission shall be notified to determine if an amended Order of Conditions is required.

POLLUTION CONTROL (including REFUELING OPERATIONS)

45. The Contractor shall be responsible for removing and disposing of debris and excavated material to offsite disposal areas in accordance with all federal, state, and local requirements and regulations. Any excavated asphalt must be removed from the site disposed of at an appropriate off-site location.

46. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.
47. No debris, fill, and excavated material shall be stockpiled within 25-feet (horizontal distance) of the limit of work. At no time shall any debris or other material be buried or disposed of within wetland resource areas or the 100-foot buffer zone resource areas, other than fill that is allowed by this Order of Conditions and as shown on the above-referenced plans.
48. Any debris, sediment, or other material that falls into or otherwise enters the wetland resource area during the construction period must be immediately removed by hand.
49. No refueling of equipment or trucks shall occur within 100-feet (horizontal distance) of wetland resource areas, if possible.
50. There shall be no more than a total of 50 gallons of fuel (other than what is in vehicles) or maintenance chemicals relating to this construction stored on the site in an area subject to the Conservation Commission's jurisdiction at any one time. No routine servicing of vehicles used for this project shall be permitted on the site. The Conservation Commission shall be notified prior to initiating any emergency repair on the site.
51. Any leaks or spills of hydraulic fluid, gasoline, or other oils or hazardous material must be cleaned up immediately and disposed of at an appropriate off-site location in accordance with all federal, state, and local requirements and regulations. The Contractor must notify the Conservation Commission and the Board of Health within 24-hours of any spillage or leakage of 5 gallons or more of oil or hazardous material. The contractor shall have spill containment and control materials on site in accordance with Applicant's Spill Prevention Control and Countermeasure (SPCC) Plan.
52. A manifest or bill, as applicable, shall be provided to the Conservation Commission documenting the legal disposal of excavated materials, building debris, concrete, asphalt, and/or other materials removed from the site including that material removed in dumpsters. Dumpsters shall be covered at night and shall be regularly emptied such that materials do not spill onto the ground.
53. The project site shall be policed daily and all construction debris, litter, cups, papers, plastic, etc. will be picked up and disposed of properly.

REQUIREMENTS FOR A CERTIFICATE OF COMPLIANCE

54. An as-built plan prepared by a Professional Engineer or Land Surveyor registered in the Commonwealth of Massachusetts showing final grades of the uplands, bank and river bed within the project area shall be submitted to the Conservation Commission with the request for a Certificate of Compliance. In addition, an affidavit from a Professional Engineer or Land Surveyor registered in the Commonwealth of Massachusetts shall be submitted, which states that the project was completed in accordance with the requirements of this Order of Conditions and the above-referenced plans. Should the completed work differ in any way from that shown on the Notice of Intent Plans, a report shall be submitted detailing any differences. If the completed work differs from what was approved by the Commission, the Commission may require the Applicant to do whatever is necessary to ensure the completed work agrees with what was proposed in the Notice of Intent.

RECEIVED

MAY 05 2025

MASS. HIST. COMM

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

RC. 76734

APPENDIX A

MASSACHUSETTS HISTORICAL COMMISSION

220 MORRISSEY BOULEVARD

BOSTON, MASS. 02125

617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Bellevue Pond Dam Rehabilitation Project

Location / Address: Bellevue Pond Dam within the Middlesex Fells Reservation, along South Border Road

City / Town: Medford - (42.43117, -71.10725)

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

Project Proponent

Name: Massachusetts Department of Conservation and Recreation

Address: 251 Causeway Street


Caitriona Parker
Preservation Planner
Massachusetts Historical Commission

5/28/25
Date

City/Town/Zip/Telephone: Boston, 02114 / 617-626-1250

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name

Medford Conservation Commission (with MassDEP review)
U.S. Army Corps of Engineers
MassDEP

Type of License or funding (specify)

Order of Conditions
Self-Verification Notification
Chapter 91 - Administrative Request for Exemption

Project Description (narrative):

The Project involves the reconstruction of the Bellevue Pond Dam weir and replacement of the spillway base. At the downstream end of the associated culvert, proposed work includes dry-packing the scour area beneath the culvert, the addition of loam, mulch, and seed along the southern slope to Floyds Brook, and vegetation plantings along an eroded portion of the adjacent walking path. Limited re-pointing of the masonry stone walls of the upstream and downstream headwalls is proposed. Walking path regrading and plantings are proposed north of the dam structure to improve drainage, as well as the installation of granite steps to formalize a portion of the existing walking path.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

The Project includes the demolition of the existing weir and concrete base of the spillway. The weir will be reconstructed to a depth of 4-feet below grade and the spillway base will be replaced in-kind.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

The Project does not include the rehabilitation of existing buildings. The Project proposes to rehabilitate the Bellevue Pond Dam through the reconstruction of the weir, replacement of the spillway base, limited re-pointing along the upstream and downstream headwalls, and the replacement of existing stones along the top of the wall. The scour area beneath the downstream end of the culvert will be dry-packed.

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

In addition to the rehabilitation of the dam, the Project proposes limited regrading and vegetation plantings within an eroded area north of the dam, the placement of gravel top-dressing on the existing walking path, and the installation of granite steps with gravel infill from the pond toward the existing path. Temporarily disturbed areas will be loamed and seeded. See the attached Project Plans.

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

The project impact area is within the Pine Hills portion of the Middlesex Fells Reservation (MHC #MDF.T), recorded in the Inventory of Historic and Archaeological Assets of the Commonwealth. The project area is in proximity to recorded ancient Native American archaeological resources (19-MD-810) and includes rehabilitation of WPA-era masonry within the man-made Bellevue Pond area.

The project has been designed to implement suitable masonry restoration and rehabilitation methods. Ground impacts are proposed to be avoided and minimized through the use of ground protection matting within access, storage and staging areas, and minimal grading within the trail and granite step portion of the Bellevue Pond shoreline. DCR Office of Cultural Resource staff will coordinate with contractors prior to and during the project to ensure protective matting is installed and grading limited to previously disturbed portions of the existing roadway and eroded trail.

In the opinion of DCR cultural resources staff, the project as proposed is unlikely to adversely affect the significant historic and archaeological characteristics of the Middlesex Fells.

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

Woodland	0.85	acres	Productive Resources:		
Wetland	0.05	acres	Agriculture	0	acres
Floodplain	0	acres	Forestry	0	acres
Open space	1.0	acres	Mining/Extraction	0	acres
Developed	0.1	acres	Total Project Acreage	1.0	acres

What is the acreage of the proposed new construction? 1.0 acres

What is the present land use of the project area?

Presently the project area is within a recreational, forested area with walking trails within an existing public park. A portion of the project area includes an existing paved parking area.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

See the attached Figure 1 - Locus Map.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form:  Date: 4-18-25

Name: Priscilla Geigis, Deputy Commissioner

Address: Department of Conservation and Recreation - State Transportation Bldg., 10 Park Plaza, Suite 6620

City/Town/Zip: Boston, MA 02116

Telephone: 617-626-1250

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

Susanna Sousa

From: Do-Not-Reply-EEA <eipas@mass.gov>
Sent: Friday, May 9, 2025 3:05 PM
To: dan.mortell@mass.gov
Cc: Susanna Sousa; DEP.Waterways@mass.gov
Subject: [EXTERNAL] 25-WWAR-0037-APP - Chapter 91 Review



This message needs your attention

- Some Recipients have never replied to this person.

[Report this Email or Mark as Safe](#)

Powered by Mimecast

Good afternoon,

Please accept this email in response to the referenced request for Chapter 91 review. Based on a review of the site conditions within the area of the proposed work, including the approximately 4-wide dredge area, the Department has determined that portion of the waterway is not navigable, and therefore not jurisdictional pursuant to Chapter 91. Therefore, no review or finding relative to 310 CMR 9.05(3) is necessary.

Please save this correspondence for your records, and if there are any questions, please contact us at DEP.Waterways@mass.gov.

Thank you,



BID PACKAGE

PART V

TECHNICAL SPECIFICATIONS

**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

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**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

PART 1. GENERAL

1.01 INTENT OF THE WORK

The Work of this Contract involves Rehabilitation of Bellevue Pond Dam (Dam), located in Medford, Massachusetts. The objective of the proposed Work is to perform rehabilitation, maintenance, and repair work to address specific dam safety deficiencies and to help provide future safety of the public. The Dam is owned, operated, and maintained by the Massachusetts Department of Conservation and Recreation (DCR, or Department). Also included in the Work of this Contract is the repair of eroded paths and natural ground (Erosion Area) located in an area approximately 300 feet northeast of the Dam. Provisions within the Contract Drawings and Specifications are intended to ensure the Work complies with the input of said stakeholders. Upon completion of the Work of this contract, Bellevue Pond Dam shall be repaired in accordance with the Contract Drawings and Specifications provided as part of the Contract Documents.

The Contractor is referred to the Contract Drawings, which, along with these Specifications, define the technical requirements of the Work.

1.02 LOCATION OF THE WORK

The Bellevue Pond Dam (MA03334) is located within the Middlesex Fells Reservation in the City of Medford, Middlesex County, Massachusetts.

The dam structure is shown on the Boston North, Massachusetts USGS quadrangle map at latitude 42.43113° N and longitude 71.10718° W. Bellevue Pond is accessible from Interstate 93 by taking exit 24 (formerly exit 57) and heading west off the exit onto South Border Road for approximately 0.4 miles where the South Border Road Parking Lot will be on right-hand side. The Bellevue Pond Dam shall be accessed by the gravel path/fire road (Quarry Road Path) at the eastern end of the parking lot.

Continue down the Quarry Road Path for about 100 feet before reaching the Bellevue Pond Dam on the left and as seen on Contract Drawings 3 and 7. The proposed Contractor's Staging Area shall be located within the upland area adjacent to the spillway as seen on Contract Drawings 7 and 8. The location of the path erosion repairs, as seen on Contract Drawings 6 and 10, is approximately 375 feet down the Quarry Road Path from the South Border Parking Lot. An additional proposed Contractor's Staging Area shall be located at the junction of the gravel walking path and a hiking trail immediately south of the proposed improvements north of the dam.

The Contract Drawings specifically delineate the project area, including staging and lay-down areas for the Contractor, as well as areas outside the limits of Work which are not to be disturbed. The Contractor shall be strictly monitored for compliance with these boundaries. Proper environmental and housekeeping procedures by the Contractor are of highest priority, as required by the environmental permits.

In addition, the Contractor shall take measures to protect existing park roadways, trees not proposed to be removed and other Park features. Disturbed areas shall be restored by the Contractor at no additional cost to the Department.

1.03 DESCRIPTION OF THE SITE

The Bellevue Pond Dam impounds Bellevue Pond and discharges via a spillway to a stilling basin, then under a culverted rock wall to Floyds Brook beyond. Bellevue Pond is very shallow and during periods of low rainfall essentially dries up in the vicinity of the dam since the stop logs are no longer in place. The dam is Non-Jurisdictional, with a structural height of less than six feet and a hydraulic height of about 3 feet.

The Bellevue Pond Dam is an earth embankment on each side of a semi-circular stone masonry spillway. The semicircular masonry spillway is about 80 feet long and 2-feet wide at the crest with a low segment that previously held provisions for stoplogs. The semi-circular stilling basin's downstream end is formed by a 50-foot-long stone masonry headwall with a 30-inch diameter Reinforced Concrete Pipe (RCP) culvert that conveys flow to the downstream area.

The weir has a batter on the downstream side that ranges from approximately 3V:1H to 6V:1H and is generally steeper in the middle. The height of the weir above ground surface on the upstream side ranges from a few inches near the left and right ends and approaches about 18 inches at the stop log supports. The height of the weir on the downstream side ranges from 2.5 to 3 feet. The height of the low segment (stoplog opening) of the weir is approximately 18 inches plus a shallow groove at the base to support stoplogs. The low segment opening of the weir is 3 feet long, with 2 inch stop log grooves recessed on both ends. The failed portion of the existing spillway is located to the left of the low segment opening and is 8 feet long.

The upstream stone masonry headwall is ± 50 feet long, ± 28 to 30 inches wide and ranges from ± 4 feet to 9 feet in height. The downstream stone masonry headwall is ± 30 feet long, ± 28 -inches wide, and ± 3 to 8.5 feet in height. The condition of the stone masonry walls is fair with some cracking and missing mortar.

The RCP culvert passes underneath an existing walking path that connects a parking area to the trail system within the park. The area immediately east of the spillway consists mainly of managed turf grass at the park entrance, while the rest of Bellevue Pond is surrounded by mature forest communities.

1.04 GENERAL SCOPE OF THE WORK

The rehabilitation, maintenance, and repair work will, in general, consists of demolition and reconstruction of the existing deteriorated weir structure, removal of sediment from the spillway, demolition and reconstruction of the spillway slab, reconstruction of the stoplog bay, limited repointing of the upstream and downstream stone masonry headwall, installation of loam and seed, fill and mulch, and vegetation along the downstream eroded path. In addition, the Work includes regrading of the gravel hiking trail (Erosion Area) northeast of the dam, and installation of granite steps with gravel infill along the eroded hiking trail in that area.

The work required by the Contract Drawings and Specifications shall include furnishing all labor, skill, supervision, tools, construction plant, equipment and materials and performing all operations necessary for the proper completion of the Contract Work as shown on the Plans and Specifications, and as required by the DCR.

The Contractor shall also provide all materials, fuels, labor, and other items necessary for the protection of the Work from hot weather, cold weather, precipitation, surface water flow, groundwater, or other potentially adverse conditions which might cause harm to completed work or work underway. The Contractor shall be prepared to remove personnel, equipment, and materials from areas of potential inundation in the event of excessive flows and be prepared to restore any damage and resume work at the site.

Primary work items included as part of the Contract shall include rehabilitation, maintenance, and repair work to address specific dam safety deficiencies. The Work will include reconstruction of the weir and the spillway floor, as well as limited repointing of the existing Quarry Road Path headwalls and repair and stabilization of eroded areas downstream of the Dam and in the Erosion Area northeast of the Dam and adjacent areas. Rehabilitation features and “in-kind” maintenance repairs have been designed in general accordance with the Massachusetts Dam Safety Rules and Regulations (302 CMR 10.00) and standard dam engineering practices. To achieve the desired improvements, major components of the Work will include, but not be limited to, the following:

A. Major Work Activities

1. Installation of tree protection measures, exclusion fencing, and sedimentation controls.
2. Establish temporary water control measures, both surface and groundwater, for the Work as referenced in Section 01565 and the Contract Documents.
3. Demolition and reconstruction of existing weir and spillway floor.
4. Replace upstream stop log structure.
5. Regrading, stabilization and installation of granite steps with gravel infill at the Erosion Area northeast of the dam.
6. Stabilization of slopes upgradient of the southern Bank of Floyds Brook.
7. Pressure grout or dry pack mortar to address undermining of wall and fill void around culvert.
8. Installation of loam and seed in disturbed areas outside of Bellevue Pond and Floyds Brook and at the junction of the hiking trail and walking path north of the dam.

B. Site Access and Staging

1. Project Location: Access to the general project location is via South Border Road in Medford, Massachusetts and park access via the South Border Road Parking Lot and Quarry Road Path trail.
2. Site: The Bellevue Pond Dam, Erosion Area and staging areas are accessible via the Quarry Road Path trail.
3. Work, Staging, Laydown and Stockpile Area: The Contract Drawings delineate staging and lay-down areas for the Contractor, as well as areas outside the limits of Work that are not to be disturbed. The Contractor shall be strictly monitored for compliance with these boundaries. Proper environmental and housekeeping procedures by the Contractor are required. Additional supplemental staging, lay-down, or stockpile areas may be available for use at alternate locations designated by the DCR, however, if the Contractor feels additional staging or lay-down areas are required, the Contractor shall request an extension of the boundaries or request supplemental areas to the DCR in writing.

1.05 SPECIAL PROVISIONS OF THE WORK

The Contractor is hereby notified that the Work of this Contract involves construction on and around an existing dam. As such, a number of special provisions will be necessary for the successful completion of the Work. Such provisions shall include, but not be limited to the following:

A. Protection of Existing Property

During the performance, and up to the date of final acceptance, the Contractor must take all reasonable precautions to protect the property of the DCR and abutting properties from loss, damage, and/or destruction resulting from the Contractors, and all Subcontractor's, operations under this Contract.

B. Sediment and Erosion Control

Sediment and erosion control measures shall be deployed during construction as required by environmental permits and otherwise depicted on the Contract Drawings. Such measures shall be deployed as shown on the Contract Drawings.

The Contractor shall perform all work required to provide, install, maintain, and remove siltation and sediment control measures necessary to protect resource areas from siltation, sedimentation, or siltation damage or damage from other by-products of the Work including water control and dewatering operations.

C. Site Access Control

The Work of the Contract shall include all necessary measures to exclude pedestrians, recreational users, and unauthorized vehicles from the construction area. This shall include the provision of appropriate fencing, gates, signage, as needed. Such users shall also be protected from construction traffic in areas when construction vehicles are entering or exiting the job site.

D. Water Control

The Contractor is specifically responsible for all temporary surface water and groundwater control during construction

Water control is of paramount importance for the successful execution of the Work. This shall include, but not be limited to, use of a coffer dam, temporary pumps, siphons, or other means to maintain the specified discharge rate, control of surface water, etc. The Contractor shall have contingency plans in place to deal with potential flood events.

High importance is attached to the physical quality of water discharged from the water control systems. The Contractor shall provide all necessary Best Management Practices necessary to ensure that discharge water meets all regulatory and permit requirements. The Contractor shall be responsible for any and all required testing and reporting.

E. Scheduling and Sequencing

All work must be completed, the site fully restored, and complete demobilization within 365 days of the Notice to Proceed (NTP). The Work schedule shall be strictly adhered to by the Contractor such that the final completion date shall be met. Time is of the essence and liquidated damages shall apply.

The Contractor shall develop his or her suggested sequence to be submitted to the Department for approval. However, any proposed sequence must account for water control issues and site protection and meet the intent of the permits, plans, and performance specifications.

The Contractor shall submit a proposed project schedule and work sequence to the Department within ten (10) days following the **Notice to Proceed**.

1.06 CONTRACT DRAWINGS

The location and general character of the work are shown on the following Contract Drawings:

Drawing No. Title

1. COVER SHEET
2. GENERAL NOTES
3. EXISTING CONDITIONS PLAN
4. EXISTING CONDITIONS PLAN - SPILLWAY
5. EXISTING SECTIONS - SPILLWAY
6. EXISTING CONDITIONS PLAN – EROSION AREA
7. SITE ACCESS AND STAGING PLAN
8. PROPOSED CONDITIONS PLAN – SPILLWAY
9. PROPOSED SECTIONS – SPILLWAY
10. PROPOSED CONDITIONS PLAN- ERSION AREA

The work shall be constructed in accordance with said plans. Details shown on said plans are indicative of the types of structures required and are subject to revision, alteration, modification, and variation. Such revisions, alterations, modifications, or variations in said plans are desirable in the opinion of the Department, on account of conditions encountered or for other reasons, shall not be considered a variation of terms of this contract and the assent of the surety on the bond accompanying this contract to such revisions, alterations, modifications, or variations shall not be required.

All said plans, general and detail, and the specifications shall be considered together, so that any work shown on the plans, though not mentioned in this contract and any work mentioned in the contract, though not shown on the plans, shall be executed by the Contractor as part of the performance of this contract. Figured dimensions shall prevail over scaled. All things which in the opinion of the Department may fairly be inferred from the plans shall be executed by the Contractor as part of the contract, and the Department shall be the sole judge as to whether the detail plans conform to the general plans.

Plans, calculations, estimates of quantities, and any statements made in the Information for Bidders or otherwise as to the conditions under which the work shall be performed, are not guaranteed by the Department to be correct or to be a complete representation of all existing data on the conditions affecting the work, and the Contractor agrees that he has made his own examination and will make no claim for damages on account of any errors, inaccuracies, or omissions that may be found. The Contractor shall not take any advantage or have any claim for damages on account of any discrepancy, error or omission in any plans, calculations, estimates of quantities, or any statements made in the Information for Bidders or otherwise as to the conditions under which the work is to be performed, and he shall report such discrepancy, error, or omission to the Department in writing as soon as it comes to his knowledge, and before proceeding with work relating to such discrepancy, error, or omission.

Any correction or modification of the plans or specifications may be made by the Department when necessary for the proper fulfillment of their purpose or for their proper interpretation. When there is a conflict between the plans and the specifications, the Department shall be the sole judge of which provision shall be controlling.

1.07 **DEFINITIONS OF PARTIES REFERENCED IN SPECIFICATIONS**

- A. References to the “Department” or to the “DCR” within the Contract Documents and Technical Specifications shall mean the “Department of Conservation and Recreation.”
- B. References to the “Contractor” within the Contract Documents and Technical Specifications shall mean the entity legally contracted by the Department of Conservation and Recreation to perform and complete the work of this Contract.
- C. References to the “Resident Engineer” within the Contract Documents and Technical Specifications shall mean the DCR employee or employees assigned to observe the work of the Contractor at the project site.
- D. References to the “Engineering Design Consultant”, the “Designer” or the “Consultant” within the Contract Documents and Technical Specifications shall mean the engineering firm contracted by the Department of Conservation and Recreation to design the project and provide design services during construction. The Engineering Design Consultant is GZA GeoEnvironmental, Inc. of Norwood, MA.

PART 2. PRODUCTS

Not Used

PART 3. EXECUTION

Not Used

PART 4. MEASUREMENT AND PAYMENT

No measurement shall be made of any work performed under this section. No separate payment shall be made for any work performed under this section. The cost of any work done or facilities provided under this section shall be included under other bid items within the Contract.

END OF SECTION

SECTION 01046
CONTROL OF WORK

PART 1. GENERAL

1.01 PERSONNEL AND EQUIPMENT

- A. The Contractor shall furnish personnel and equipment which will be appropriate to execute a satisfactory quality of work and a rate of progress which will ensure the completion of the work within the Contract Time. If at any time such personnel and equipment appears to be inefficient, inappropriate or insufficient to accomplish the quality of work required or for producing the rate of progress aforesaid, the Department, Resident Engineer or Consultant may order the Contractor to increase the efficiency, change the character or increase the personnel and/or equipment and the Contractor shall conform to such order. Failure of the Department or Resident Engineer to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 OPEN EXCAVATIONS

- A. The Contractor shall adequately safeguard all open excavations by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property. The length or size of excavation will be controlled by the particular surrounding conditions. If the excavation becomes a hazard, the Resident Engineer or Consultant may require special construction procedures such as limiting the length of the open trenches and requiring that trenches shall not remain open overnight.
- B. Take precautions to prevent injury to the public due to open excavations or trenches. Provide adequate light at all trenches, excavated material, equipment, or other obstacles which could be dangerous to the public at night.

1.03 CARE AND PROTECTION OF PROPERTY

- A. The Contractor shall be responsible for the preservation of all public and private property and use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, the Contractor shall restore such property, at no cost to the Department, to a condition similar or equal to that existing before the damage was done, or make good the damage in other manner acceptable to the Department.

1.04 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains and electric and telephone cables, whether or not they are shown on the Contract Drawings. Carefully support and protect all such structures and utilities from injury of any kind. Immediately repair any damage resulting from the construction operations.
- B. The Contractor shall bear full responsibility for obtaining all locations of underground structures and utilities (including existing water and electric services, drain lines, and sewers). Maintain services to existing facilities and pay costs or charges resulting from damage thereto.

- C. The Contractor shall notify all utility companies in writing at least 72 hours (excluding Saturdays, Sundays and Legal holidays) before excavating. Also notify Dig Safe, telephone 1-888-344-7233 at least 72 hours prior to start of work.

1.05 WATER FOR CONSTRUCTION PURPOSES

- A. Water from Bellevue Pond, shall not be used by the Contractor for construction.

1.06 EXISTING FACILITIES

- A. Grades, lines, elevations, dimensions, and locations of existing utilities, structures, and internal features at the site are indicated on the Contract Drawings. Grades, elevations, dimensions, and locations of these features are based on a combination of field survey and available drawings. No attempt was made to locate or verify locations of utilities within any proposed Laydown Areas or features/utilities outside of the Work Area beyond what is shown on the Drawings. Prior to starting the work of this Contract, the Contractor shall perform a field survey to satisfy himself/herself as to the actual location of existing features within the Limit of Work. The Contractor shall be responsible for establishing any control points and marks necessary for the Work. Precautions shall be taken to preserve the existing features in the most undisturbed condition possible. At a minimum, the Contractor shall:
 - 1. Identify and check all required lines, dimensions, levels, contours, and datum.
 - 2. Notify the Resident Engineer and Department in writing of unanticipated subsurface conditions or features and discontinue affected work in area until notified to be resumed.
 - 3. Maintain and protect any previously unknown existing utilities/structures/features, and notify appropriate utility company to shut down, remove, or relocate utilities, if necessary.

1.07 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

- A. During the course of the work, the Contractor shall keep the site of operations as clean and neat as possible. Dispose of all residue resulting from the construction work and, at the conclusion of the work, remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations and leave the entire site of the work in a neat and orderly condition.
- B. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the Contractor shall comply with all applicable Federal, State and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this Section, other related Sections and project permits.
- C. Disposal of excess excavated material in wetlands, waterbodies, stream corridors and floodplains are strictly prohibited even if the permission of a property owner is obtained. Disposal of excess excavated material will be allowed only in areas as directed by the Department and/or Resident Engineer prior to disposal. Any violation of this restriction by the Contractor or any person employed by him will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. The Contractor will be required to remove the fill and restore the area impacted at no increase in the Contract Price.
- D. The disposal of all material not covered under separate pay items is the responsibility of the Contractor. The Contractor must properly dispose of the material at his/her own expense.

- E. All excess excavated material that cannot be utilized on site shall be disposed of in accordance with the appropriate Section and all local, state and federal requirements, and in accordance with Section 02200. Refill material shall be as shown on the Contract Drawings and specified in Section 02200 - Earthwork. When differences between the specification and local, state, or federal requirements exist, the more stringent requirements shall govern.
- F. Excess materials removed during the construction of the project shall be utilized on site or returned to the Department, if directed by the Resident Engineer.
- G. A manifest or bill, as applicable, shall be provided documenting the legal disposal of excavated materials, building debris, concrete, asphalt, and/or other materials removed from the site including that material removed in dumpsters. Dumpsters shall be covered at night and shall be regularly emptied such that materials do no spill onto the ground.
- H. The site shall be policed daily and all construction debris, litter, cups, papers, plastic, etc. will be picked up and disposed of properly.

1.08 FUEL RESTRICTIONS

- A. No refueling of equipment or trucks shall occur within 100-feet (horizontal distance) of wetland resource areas, if possible.
- B. There shall be no more than a total of 50 gallons of fuel (other than what is in vehicles) or maintenance chemicals relating to this construction stored on the site in an area subject to the Medford Conservation Commission's jurisdiction at any one time. The Medford Conservation Commission shall be notified prior to initiating any emergency repair on the site.
- C. Any leaks or spills of hydraulic fluid, gasoline, or other oils or hazardous material must be cleaned up immediately and disposed of at an appropriate off-site location in accordance with all federal, state, and local requirements and regulations. The Contractor must notify the Medford Conservation Commission and the Board of Health within 24-hours of any spillage or leakage of 5 gallons or more of oil or hazardous material. The Contractor shall have spill containment and control materials on site in accordance with the Applicant's Spill Prevention Control and Countermeasure (SPCC) Plan.

PART 2. PRODUCTS

This Section Not Used

PART 3. EXECUTION

This Section Not Used

PART 4. MEASUREMENT AND PAYMENT

No measurement shall be made of any work performed under this section. No separate payment shall be made for any work performed under this section. The cost of any work done, or facilities provided under this section shall be included under other bid items within the Contract.

END OF SECTION

SECTION 01060

REGULATORY REQUIREMENTS

PART 1. GENERAL

1.01 PERMITS AND LICENSES

No portion of the Work shall start until all necessary and required permits have been secured.

- A. A list of permits, licenses, and approvals which have already been secured by the Department in relation to the work at the Dam is included in this section. Copies of the permits, along with the required compliance conditions, are included in Part 4. The Contractor shall be responsible adhering to the conditions stipulated in all permits.

The permits and their required conditions shall be considered part of the Contract Documents. The Contractor shall be responsible for adhering to the conditions stipulated in all permits. No Work shall begin until all required permits have been secured by the Department to cover the Work. The DCR has separately obtained the following permits:

1. Wetlands Protection Act – Order of Conditions
2. Massachusetts Historical Commission Project Notification Form.

- B. The Contractor shall be responsible for obtaining all other necessary permits and shall be responsible for adhering to the conditions stipulated in all permits. A temporary permit (local) may be required for field trailers (if any) and, if so, shall be obtained by Contractor. The Contractor shall be responsible for conducting the Work in accordance with all provisions of said permits. In particular, permit applications which are the Contractor's responsibility may include, but not be limited to, the following:

1. Building/Zoning Permit(s) – City of Medford, MA

- C. The Contractor shall procure any other required permits, licenses and inspections, (except for those to be obtained by the Department as stated herein), pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work under this Contract. The cost thereof shall be included in the bid prices for the various items specified herein for the work of this Contract. Copies of all required permits and licenses shall be filed with the Department prior to the beginning of the work.

1.02 ADHERENCE TO PERMIT AND LICENSE CONDITIONS AND REQUIREMENTS

The Contractor shall strictly adhere to all conditions and requirements set forth in the permits and licenses issued in relation to the Work of this Contract. The Contractor shall undertake all incidental work necessary to meet the conditions and requirements of the permits and licenses and shall perform the Work of the Contract in accord with said conditions and requirements. The cost thereof shall be included in the prices bid for the various items specified herein for the work of this Contract.

The Contractor shall be solely responsible for monitoring and complying with the conditions and requirements of all permits and licenses. The Contractor shall be solely responsible for any and all penalties, sanctions, and fines that result from non-compliance with the conditions and requirements of all permits and licenses. Neither the Department nor its Consultant will be held responsible for any penalties which result from Contractor violations of the conditions and requirements of permits and licenses.

It is expected that conditions and requirements contained in permits yet to be issued will substantially conform to the requirements of the plans and specifications and conditions contained in other permits. Therefore, no additional payment will be made for compliance with the conditions and requirements these un-issued permits.

1.03 AIR, SOIL, AND WATER POLLUTION AND NOISE CONTROL

The Contractor shall comply with the applicable local, state, and federal regulations pertaining to Open Burning, and Dust, Odor, Construction and Demolition; and his/her attention is called to applicable Enforcement Provisions in regard to these and other pertinent and applicable regulations. The Contractor shall comply with the provisions of the Clean Air Act of 1970, 42USC, Sections 1857- 1857f.

A Sediment and Erosion Control measures and notes are included within the Contract Drawings. The information contained in the plans, specifications, and notes may be used as the basis for the preparation of any sediment and erosion control plan but shall be considered the MINIMUM acceptable measures. The final content and responsibility for implementation are the Contractor's alone.

Clean-up of such spills, leaks or other contamination shall be undertaken immediately by the Contractor. The clean-up work shall be done to the satisfaction of the Resident Engineer and the Department. All spills, leaks, or other contamination shall be immediately reported to both the Resident Engineer and Department. In the event that such a spill or leak is not cleaned up by the Contractor, the Department reserves the right to have the spill or leak cleaned up by its own forces or by others and the expense of such removal and disposal will be charged to the Contractor.

The Contractor shall be responsible for utilizing construction practices which meet the requirements of all municipal noise ordinances with respect to the level of ambient noise generated by construction activities as heard at nearby receptors. In the event that no appropriate municipal code exists, the standards used by the City of Boston shall govern. In any event, the Contractor shall take all reasonable precautions to reduce the disturbance of abutters by noise generated by construction activity.

1.04 CONSTRUCTION-PHASE FLOOD / EMERGENCY CONTROL PLAN

As further described in Section 01565- Temporary Water Control, a Construction-Phase Flood / Emergency Response Plan is intended to outline the Contractor's anticipated actions in the event of a flood or other emergency at the site during construction. During periods of the Work of the Project, the Contractor's temporary cofferdams will serve as the primary structure for maintaining the impoundment upstream of the site. The Contractor must therefore be prepared to respond aggressively in the event of flood conditions or other circumstances which might threaten the integrity of the cofferdams. The Contractor's Construction-Phase Flood / Emergency Response Plan shall detail the monitoring procedures, action levels, available materials and equipment, responses, and responsible personnel (with contact information) which will be activated to respond to potential emergencies. The Contractor shall then be responsible for implementing the plan throughout the full duration of the Work.

The Plan template will contain, at minimum, the following elements, as well as any other information required by the Department, Resident Engineer or Consultant:

- A. A brief description of the cofferdam systems which will be utilized at the dam.
- B. A description of the sequencing of water control features.

- C. A description of site hydrology and hydraulics, including:
 - 1. rainfall totals for various design storms;
 - 2. peak flow rate totals for various design storms;
 - 3. anticipated peak water surface elevations for various design floods;
 - 4. limitations on minimum impoundment water surface levels based on environmental restrictions.
- D. Monitoring steps (seepage and cofferdam deflections), data sources (USGS and NWS websites), and record keeping.
- E. Action Thresholds (forecast and actual).
- F. Potential Contingency Actions (such as backfilling, pumping, etc.).
- G. Wet weather downstream inundation map Emergency Notification Information.

The Contractor may utilize information contained in the Contract Documents in the preparation of the Plan.

1.05 HEALTH AND SAFETY

Health and Safety on the project site shall be the sole responsibility of the Contractor. The Contractor shall be responsible for monitoring the health and safety practices of his own personnel and those of all sub-contractors present on the site. The Contractor shall be responsible for knowledge of and compliance with all relevant OSHA regulations, as well as all other Federal, state, and local laws, ordinances, codes, and regulations pertaining to health and safety.

A general and a site-specific Health and Safety plan must be in place prior to the Start of the Work. The Contractor is hereby notified that DCR will place the utmost importance on the proper planning, execution and adherence to the safety plan and all required general safety procedures. Review of this plan by DCR and/or its Consultant in no way implies acceptance of responsibility for job site safety by the DCR and/or its Consultant. The Contractor shall be solely responsible for job site safety.

The site-specific Health and Safety Plan shall specifically address fall protection, water safety, and traffic safety, as well as all other areas deemed necessary by the Contractor.

Neither the professional activities of Department, its Resident Engineer, or its Design Consultant, nor the presence of the Department, its Resident Engineer, or its Design Consultant's employees and/or subcontractors will be construed by any party to imply that the Department, its Resident Engineer, or its Design Consultant has any responsibility for any Contractor's methods of work performance, procedures, superintendence, sequencing of operations, or safety in, on or about the project site. With respect to site safety, the Department will be responsible solely for the on-site activities of its own employees and subcontractors, and this responsibility will not be construed to relieve the Contractor from his obligations to maintain a safe project site.

1.06 SUBMITTALS

The Contractor shall submit the following documents a minimum of ten (10) days prior to the start of work:

- A. Construction-Phase Flood / Emergency Response Plan
- B. Spill prevention control and countermeasures plan
- C. Site-Specific Health and Safety Plan - **FOR INFORMATION ONLY**
- D. All applicable permit/approval applications requested to perform the Work at the site.

PART 2. PRODUCTS

Not used

PART 3. EXECUTION

3.01 COMPLIANCE AND ADHERENCE

- A. Provide all labor, equipment and materials to satisfy any and all federal, state or local requirements, laws, rules, regulations, and procedures for the protection of employees.
- B. Comply with the site-specific Health and Safety Plan. The Contractor's SSO shall be present on-site for all working hours to monitor health and safety requirements throughout the performance of Work.

3.02 NOTIFICATIONS

It shall be the Contractor's responsibility to notify the Department orally and in writing as quickly as possible should any unforeseen safety hazard or condition become evident during the performance of the Work. In the interim, the Contractor shall take action to establish and maintain safe working conditions and to safeguard employees, the public, and the environment.

3.03 PERFORMING A SAFETY STAND-DOWN DAY MEETING

Perform a Safety Stand-Down Day meeting with the Department in attendance to review guidelines and procedures of the site-specific Health.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

No measurement shall be made of any work performed under this section.

4.02 PAYMENT

No measurement shall be made of any work performed under this section.

END OF SECTION

SECTION 01200
PROJECT COORDINATION AND MEETINGS

PART 1. GENERAL

1.01 SUMMARY

- A. The Contractor shall be required to attend meetings prior to and during execution of the Work, or as necessary to facilitate the smooth and orderly execution of the Work. All meetings shall be held at a location designated by the Department.
- B. The Contractor shall conduct daily site safety briefings as necessary for Contractor and Subcontractor employees working the site, in compliance with OSHA rules.
- C. All meetings with the Department (or its representative) shall be attended by the Contractor's Superintendent and other personnel having authority to legally bind Contractor to issues discussed and resolved during the meetings. The Contractor's subcontractor(s) may also be required to attend such meetings. Subcontractor attendance shall be at the discretion of the Resident Engineer and/or the Department.
- D. Formal meetings that require attendance by the Contractor are as follows:
 - 1. Pre-construction Conference
 - 2. Pre-construction Conservation Commission Meeting
 - 3. Bi-weekly Progress and Coordination Meetings
 - 4. Final walkthroughs by Conservation Commissions or other regulatory bodies
 - 5. 'Punchlist' Meeting
 - 6. Closeout (Final Acceptance) Meeting
 - 7. Other Special Meetings
- E. The Contractor shall be required to attend all meetings ordered or requested by representatives of regulatory agencies with jurisdiction over the site or any aspect of the work being performed at the site, either by the Contractor or others. Some meetings may be after hours.

1.02 PRE-CONSTRUCTION CONFERENCE

- A. The Contractor shall not commence Work at the Site until a pre-construction conference has been held at the Site or another mutually agreed on location at which representatives of the Contractor, Department, and Department's Design Consultant are present. The pre-construction conference(s) will be arranged by the Department and is intended to establish lines of communication between the parties involved, establish project schedules, discuss proposed performance methods, and coordinate Work to be performed by subcontractors. The time and place of the pre-construction conference(s) shall be determined after the Contract has been executed by the Contractor and the Department.

1.03 REGULATORY MEETINGS

- A. The Contractor shall not commence Work at the Site until required meetings with all regulatory agencies have been completed. Such meetings will be held at the Site or another mutually agreed on location at which representatives of the Contractor, Department, Department's Design Consultant, and regulators are present. These meetings will be arranged by the Department and are intended to establish lines of communication between the parties involved, establish project schedules, discuss proposed work to be performed, and restoration expectations. The time and place of the Regulatory meeting(s) shall be determined after the Contract has been executed by the Contractor and the Department. A minimum of two such pre-construction meetings shall be assumed.
- B. Separate pre-completion meetings with Regulators, as per permit conditions, shall also be required. The Contractor shall attend all such meetings and correct all issues noted.

1.04 PROGRESS MEETINGS

- A. The Contractor and all Subcontractors shall be required to attend such Progress Meeting as deemed necessary by the Department (or its Representative) and/or Resident Engineer at the work site. The purpose of these meetings is to coordinate the efforts of all Contractors and to update the Department and Resident Engineer with respect to progress and resolve outstanding issues.
- B. Meetings will be held at a time to be determined by the Department and/or its Resident Engineer. These meetings shall be held once, every other week from the start of the work and shall be mandatory.**
- C. The Contractor shall be prepared to discuss progress, **planned resolutions to problems** and anticipated problems that could delay timely completion of the work. The Contractor shall bring to each meeting: updated schedule, daily work summaries, safety meeting minutes, weekly progress reports, and other pertinent information as requested by the Department and/or its Resident Engineer.
- D. The Department's Consultant will record the meeting minutes and distribute them to the Contractor, Subcontractors, and Attendees.
- E. The Contractor shall bring to each meeting for review a set of marked "as built" drawings showing any changes or deletions to the design.
- F. The Department may waive the Progress Meetings individually if appropriate.

1.05 PUNCHLIST MEETING

Upon substantial completion of the project, the Contractor shall attend a "punch list" meeting with the Resident Engineer and Department. The purpose of this meeting shall be to discuss and list all items which require additional attention or work by the Contractor prior to final acceptance. A "punch list" memo will be produced by the Department following this meeting and provided to the Contractor.

1.06 CLOSEOUT (FINAL ACCEPTANCE) MEETING

Upon resolution of all items listed on the “punch list”, the Contractor shall meet with the Department and its Resident Engineer at the project site to verify completion such that the Department can issue final acceptance. At this meeting the Contractor shall provide to the Department all outstanding documentation, records, spares, maintenance items, or other information and materials.

1.07 SPECIAL MEETINGS

- A. From time to time, the Contractor shall be required to attend Special Meetings on site as requested by the Resident Engineer and/or the Department. The purpose of these meetings is to address Contractor and/or his Subcontractor’s performance, schedule, change orders, modifications, alternatives, substitutions, safety, payment or other issues as they relate to the Work.
- B. Special meetings may also address issues regarding permits and permit conditions. The Contractor is referenced to the Permits issued by the various regulatory agencies for information regarding specific meeting requirements. Unscheduled meetings may also take place as part of site inspections or to deal with compliance issues.
- C. Some meetings may be scheduled after normal business hours for the purpose of permitting participation by stakeholders. Such meetings shall be at no additional cost to the Department.

1.08 JOB SITE ADMINISTRATION

- A. The Contractor shall keep a competent and authorized supervisory representative at the project location during all working hours who shall act as the agent of the Contractor. The supervisory representative’s responsibilities shall include ensuring all issues/questions raised by the Engineer are addressed in a timely fashion.
- B. The supervisory representative shall be a competent, English-speaking superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to fulfill the Contractor’s duties and responsibilities on the job. If, in the opinion of the Department, the supervisory representative, or any of his successors is incompetent, or otherwise not satisfactory, then the Contractor shall replace him upon written request by the Department.
- C. The Contractor shall only employ competent workmen on the job who have received training applicable to the nature and extent of the work they are employed to perform. Whenever the Department notifies the Contractor in writing that, in its opinion, any workman on the job, whether employed by the Contractor or any of his subcontractors, is incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such workman shall be discharged from the contract Work and shall not be employed on it, except with the written consent of the Department.

1.09 SUBMITTALS

- A. Within ten (10) days of the Notice to Proceed, the Contractor shall submit the names and contact information for the following persons involved with the Work of the Contract. Contact information shall include cell phone and home phone numbers and an e-mail address.
 - 1. Owner of Chief Executive of Prime Contracting Company.
 - 2. Contractor’s Project Manager
 - 3. Contractor’s Site Superintendent
 - 4. Contractor’s Safety Officer
 - 5. Contractor’s Environmental Compliance Responsible Party

PART 2. PRODUCTS

Not Used

PART 3. EXECUTION

Not Used

PART 4. MEASUREMENT AND PAYMENT

No measurement shall be made of any work performed under this section. No separate payment shall be made for any work performed under this section. The cost of any work done, or facilities provided under this section shall be included under other bid items within the Contract.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1. GENERAL

1.1 DESCRIPTION

- A. This section specifies the general requirements and procedures for preparing and transmitting data to the Consultant and the Department for information or review. Required submittals are specified herein as well as under applicable sections of the Contract Specifications.

1.2 CONTRACTOR'S DRAWINGS

- A. The Contract Plans and these Specifications show the general arrangement and such details as are necessary to provide a description of the work to be performed.
- B. The Contractor shall prepare shop and working drawings, for temporary and permanent work as required under the applicable sections of the Contract Specifications, complete with all relevant calculations, descriptions, technical and performance data, as necessary to adequately perform the work. The Contractor shall take responsibility for such drawings and for the safe and successful construction of the work.
- C. Shop drawings shall be presented in a clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable Consultant to review information as required.
- D. Sheet size: 8-1/2" x 11" or larger, as required. Typically, significant shop drawings shall be 24" x 36".

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit three (3) copies of overall project schedule no later than ten (10) working days after Notice to Proceed.
- B. The overall project schedule shall be prepared in Gantt chart format. The schedule shall identify all major work items or activities, including material procurement, and shall provide an estimate of start date, duration, completion date, and float (if any) for each item or activity. The schedule shall identify dependencies among work items or activities and project milestones.
- C. Submit revised schedules with each Application for Payment, identifying changes since the previous version, and indicating status of all work items or activities.

1.4 SAMPLES

- A. Submit samples as necessary and as stipulated within each individual section of these Specifications to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work with the Resident Engineer.
- B. Any samples shall be clearly identified as to material, manufacturer, any pertinent catalog numbers, and use for which intended, and shall be of sufficient size and quantity to clearly illustrate functional characteristics of item, with integrally related parts and attachment devices.

1.5 RELATED WORK SPECIFIED ELSEWHERE

Required submittals are listed under the relevant Section of the Contract and Specifications. It shall be the Contractor's responsibility to read each Section and provide the submittal required therein.

1.6 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings and samples prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance to specifications.
- C. Coordinate each submittal with requirements of work and of Contract Documents.
- D. Notify Consultant and Department in writing, at time of submission, of any deviations in submittals from requirements of Contract Documents. Any such deviations permitted by Department will require modifications to the Contract Documents.
- E. Begin no fabrication or work which requires submittals until submittals have been approved by the Department.

1.7 SUBMISSION REQUIREMENTS

- A. Make submittals to Department promptly in accordance with approved schedule and in such sequence as to cause no delay in work. Allow ten (10) working days following receipt of submittal or resubmittal for review.
- B. At a minimum, submittals shall be provided to the Department, to the Resident Engineer, and to the Consultant. Additional requirements are contained in the specific Specification sections. Additional copies may be required as per the Supplementary General Conditions.
- C. Shop Drawings: Shop Drawings shall be submitted as necessary to the Department and Consultant for review and comment for the limited purpose of checking for conformance with information given in the design concept expressed in the Contract Documents. Shop drawings shall be presented in a clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and the like information to enable the Department and Consultant to review information as required. Sheet size shall be 8-1/2" x 11" or larger.
- D. In addition, submittals shall contain:
 - 1. Date and sequential number of submission, along with Section number of the Technical Specification to which the submittal refers.
 - 2. Project title and number.

3. Names of:
 - a. Contractor;
 - b. Manufacturer/Supplier.
4. Identification of product, with specification section number.
5. Field dimensions clearly identified as such.
6. Relation to adjacent or critical features of work or materials.
7. Applicable standards, such as ASTM or other applicable federal or state regulations.
8. Identification of deviations from Contract Documents.
9. Identification of revisions on re-submittals.
10. Calculations and drawings certified and stamped by a Professional Engineer licensed in the Commonwealth of Massachusetts, if required.

Each submittal shall be numbered sequentially in the sequence of submission (e.g. 1, 2, 3...). In addition, submittals shall indicate the Section number to which the submittal pertains and then a sequential number designating the order of the submittal for that Section. For instance, the first submittal applying to Earthwork shall be numbered as 02200-1. The second submittal applying to Earthwork shall be numbered as 02200-2.

- E. The Contractor shall deliver to the Department ONLY complete submittal packages which address all requirements and information necessary for the review and approval of the submittal.
- F. Resubmission Requirements: Make any corrections, additions and/or changes in submittals required by the Department and re-submit revised editions. Revised submittals shall be designated with a revision letter. For instance, the first revision to the second Earthwork submittal shall be numbered as 02200-2A, and for a second revision to the second Earthwork submittal shall be numbered as 02200-2B.
- G. Submittals shall be made utilizing the standard cover sheet provided at the end of this Section.**

1.8 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application subcontractor.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certificates as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Department.

1.9 DISTRIBUTION

- A. The Contractor will distribute submittals to concerned parties as appropriate. Promptly report any inability to comply with revisions. Four (4) copies of each submittal shall be submitted directly to the DCR Resident Engineer, one (1) copy shall be submitted directly to the DCR Project Engineer, and a minimum of two (2) duplicates shall be submitted directly to the DCR Consultant. Review time shall begin upon receipt of the submittal by the Resident Engineer. Upon approval by the Resident Engineer, submittal submission may also be made electronically by e-mail.

1.10 CONSULTANT DUTIES

- A. The Engineering Design Consultant (Consultant) for the DCR will review submittals only for general conformance to design concept of project and compliance with information given in Contract Documents. Review shall not extend to means, methods, sequences, techniques or procedures of performing the Work or to safety precautions or program incident thereto. Review of a separate item as such will not indicate approval of assembly in which item functions.
- B. The Consultant will return submittals to the Department with the Consultant's written opinion as to the general conformance of the submittal with the Contract Documents. The Department's Resident Engineer will then return the submittal to the Contractor for distribution or for resubmission, if required by the Contract Documents and/or due to the Consultant's opinion of their non-compliance and/or incompleteness. The Consultant will respond to all submittals within ten (10) working days from the date of receipt. Re-submittals required as a result of Consultant's review and comment shall be re-submitted promptly by the Contractor. Work shall not commence until all submittals related to it are submitted and accepted.
- C. The Consultant's review of submittals shall not relieve Contractor from responsibility for any deviations from Contract Documents unless Contractor has, in writing, called attention to such deviation at time of submission and has received written concurrence pursuant to Contract Documents to specific deviation, nor shall any concurrence in submittals.
- D. The Department's Resident Engineer or other DCR personnel may also perform submittal review duties, at the discretion of the Department.
- E. Submittal from the Contractor will be reviewed by the Consultant and returned to the Department marked with one (1) of the following codes:
 - 1. REVIEWED – Recommend the Contractor may proceed with the work.
 - 2. REVIEWED AS NOTED RESUBMITTAL NOT REQUIRED – Recommend the Contractor may proceed with the work taking into account the corrections and comments noted on the drawing or submittal.
 - 3. REVIEWED AS NOTED RESUBMITTAL REQUIRED – Recommend the Contractor may proceed with the work taking into account the corrections and comments noted on the drawing or submittal. The drawings shall be resubmitted within ten (10) calendar days for record and reference after the necessary revisions are made.
 - 4. REVISE AND RESUBMIT – Recommend that the Contractor shall not proceed with work but, within ten (10) calendar days, shall make the corrections and revisions or prepare a new drawing or calculation and resubmit the revised information for review at no change in schedule or cost to the Department.
 - 5. REJECTED – Recommend that the submittal is rejected as it is not in accordance with the Contract, contains too many corrections, or other justifiable reason. The submittal must be corrected and resubmitted. No items are to be fabricated under this stamp and the Contractor shall not proceed with the work but, within ten (10) calendar days shall resubmit the required information to the Department for review at no change in schedule or cost to the Department.

1.11 DEPARTMENT DUTIES

- A. The Department will receive comments from the Consultant and return the submittal to the Contractor.

- B. The Department will have the final authority to judge the adequacy of the Contractor's submittal and shall have final authority for approval or rejection.
- C. Submittal from the Contractor will be reviewed by the Department and returned to the Contractor marked with one (1) of the following codes:
 - 1. ACCEPTED – The Contractor may proceed with the work.
 - 2. ACCEPTED AS NOTED RESUBMITTAL NOT REQUIRED – The Contractor may proceed with the work taking into account the corrections and comments noted on the drawing or submittal.
 - 3. ACCEPTED AS NOTED RESUBMITTAL REQUIRED – The Contractor may proceed with the work taking into account the corrections and comments noted on the drawing or submittal. The drawings shall be resubmitted within ten (10) calendar days for record and reference after the necessary revisions are made.
 - 4. REVISE AND RESUBMIT – The Contractor shall not proceed with work but, within ten (10) calendar days, shall make the corrections and revisions or prepare a new drawing or calculation and resubmit the revised information for review at no change in schedule or cost to the Department.
 - 5. REJECTED – The submittal is rejected as it is not in accordance with the Contract, contains too many corrections, or other justifiable reason. The submittal must be corrected and resubmitted. No items are to be fabricated under this stamp and the Contractor shall not proceed with the work but, within ten (10) calendar days shall resubmit the required information to the Department for review at no change in schedule or cost to the Department.

1.12 ANTICIPATED SUBMITTALS PRIOR TO INITIATION OF WORK

- A. The Contractor shall complete and submit all of the following submittal items consistent with the Specification requirements. Unless otherwise noted, all of the following submittals shall be made within ten (10) working days after the Notice to Proceed and prior to the Start of Work. Other submittals, as per the Contract Specifications, may be required prior to the initiation of the relevant Work.
 - 1. Section 01010 – Submit overall project schedule and work sequence in accordance with Section 01010 – Summary of Work.
 - 2. Section 01060 – All permit correspondence and applications made by the Contractor and copies of all permits, licenses, or approvals granted to the Contractor as part of the Work of the Project. A Storm Water Pollution Prevention Plan shall also be submitted as per the requirements in section 01060 – Regulatory Requirements.
 - 3. Section 01060 – The Contractor shall submit the following documentation:
 - a. Construction-Phase Flood / Emergency Response Plan;
 - b. Spill prevention control and countermeasures plan;
 - c. Site-Specific Health and Safety Plan – FOR INFORMATION ONLY; and
 - d. All applicable permit/approval applications requested to perform the Work at the site.
 - 4. Section 01200 – The Contractor shall submit the names and contact information for the following persons involved with the Work of the Contract. Contact information shall include cell phone and home phone numbers and an email address.

- a. Owner of Chief Executive of Prime Contracting Company;
 - b. Contractor's Project Manager;
 - c. Contractor's Site Superintendent;
 - d. Contractor's Safety Officer;
 - e. Contractor's Environmental Compliance Responsible Party.
- 5. Section 01500 – The contractor shall submit to the Department a list of the temporary facilities to be brought to the site.
- 6. Section 01510 – The contractor shall submit to the Department advance copies of any material to be used for public information and provide a proof copy of the temporary project signs.
- 7. Section 01560 – Submit a written Temporary Sediment and Erosion Control Plan detailing methods, materials, and layout of BMP's in accordance with requirements in Section 01560. The written plan shall detail the phasing of the installation and removal of proposed BMPs.
- 8. Section 01565 – Not less than two (2) weeks prior to the scheduled start of work, submit a Temporary Water Control Plan in accordance with the requirements in Section 01565.
 - a. Submit a design, sequence of operation, maintenance and supervision of the surface water and control systems.
 - b. Submit a proposed Contingency Plan for all systems including for storm emergency.
 - c. Scheduling requirements.
- 9. Section 01570 – Submit a plan of temporary access and traffic control in accordance with the requirements in Section 01570.
- 10. Section 01740 – Submit a pre-construction site documentation package and site restoration methods/materials information.
- 11. Section 01900 – Mobilization / Demobilization:
 - a. Submit a description of all temporary facilities and services to be used by the Contractor.
 - b. Submit a plan, procedure, and date for the documentation of existing conditions.
 - c. Within ten (10) working days of completing the existing conditions documentation field work, the Contractor shall submit six (6) copies of the full existing conditions documentation package, including drawings of the facilities to be reconstructed.
 - d. The Contractor shall submit information, as needed, on site preparation and site restoration methods. Information regarding materials to be used in restoring site conditions shall be submitted as needed.
- 12. Section 02110 – Submit a plan showing the boundaries of all areas to be cleared, grubbed, and stripped, including all trees to be removed. Indicate proposed stockpile locations and associated erosion control measures.

1.13 SUBMITTALS PRIOR TO WORK ON PARTICULAR ITEMS

- A. The Contractor shall complete and submit all of the following submittal items consistent with the Specification requirements. Unless otherwise noted, all of the following submittals shall be made within ten (10) working days prior to the initiation of the relevant Work.
 - 1. Section 01510 – Temporary Project Sign and Public Information:

- a. No later than ten (10) days prior to fabricating the signs, the Contractor shall provide a proof copy of the layout of the temporary project signs.
 - b. The Contractor shall submit to the Department advance copies of any material to be used for public information.
- 2. Section 02065 – Dismantling, Demolition/Removal of Existing Structures:
 - a. Demolition Work Plan.
 - b. Documentation of removal, storage, and replacement work.
 - c. Temporary earth support plans and details (if required). Including PE stamped calculations.
 - d. Disposal facility information.
- 3. Section 02200 – Earthwork:
 - a. Material data and sieve analysis including standard proctor curve test results for each material.
 - b. Coordination plan, schedule, and sequence of earthwork.
 - c. Independent Materials Testing Agency information.
- 4. Section 02930 – Loaming, Seeding and Vegetation:
 - a. Seed Certifications and Erosion Control Data.
 - b. Soil Test Results.
- 5. Section 030000 – Reinforced Cast-In-Place Concrete:
 - a. Rebar certifications and shop drawings.
 - b. Testing laboratory firm information (2 weeks prior to concrete work).
 - c. Concrete Mix Design and Test Results (2 weeks prior to concrete work).
 - d. Cement certifications and admixture material data.
 - e. Field test results from Contractor's Independent Testing Consultant.
 - f. Independent Laboratory Test Results.
 - g. Delivery batch tickets.
- 6. Section 03305 – Concrete Testing:
 - a. Testing Laboratory Name and Qualifications.
 - b. Individual Inspector Names and Certifications.
 - c. Laboratory Testing Reports.

Where not specifically mentioned, at least ten (10) working days prior to the delivery of equipment to the site, the Contractor shall submit to the Department all applicable equipment certifications and manufacturers information for review and approval.

1.14 SUBMITTALS DURING THE PERFORMANCE OF THE WORK

- A. During the performance of the Work, the Contractor shall submit progress reports, as requested by the Department or Consultant. Progress reports shall be submitted at the beginning of (or before) progress meetings (Section 01200 - Project Coordination and Meetings). Such reports shall contain:
1. A summary of Work activities occurring during the period covered by the report.
 2. The type of materials and/or major equipment being installed by the Contractor and the total number of employees working in each category on that particular day.
 3. The names of the subcontractors working and the type of materials and/or major equipment being installed by each together with the total number of employees working for each subcontractor on that particular day.
 4. The excavation, compaction, and other equipment being used by the Contractor and each subcontractor.
 5. A discussion of problems encountered and corrective actions taken.

PART 2. PRODUCTS

Not Used.

PART 3. EXECUTION

Not used.

PART 4. MEASUREMENT AND PAYMENT

No measurement shall be made of any work performed under this section. No separate payment shall be made for any work performed under this section. The cost of any work done or facilities provided under this section shall be included under other pay items within the Contract.

END OF SECTION

SUBMITTAL COVER SHEET

CONTRACTOR: _____

SUBMITTAL NO.: _____

ADDRESS: _____

DATE OF SUBMITTAL: _____

CONTRACT NO.: _____

NAME OF PROJECT: **BELLEVUE POND DAM REHABILITATION PROJECT**

SUBMITTAL DESCRIPTION:

REFERENCES:

Specification Section(s) _____ Paragraph(s) _____

Contract Drawing(s) _____

CONTRACTOR SIGNATURE _____ DATE _____

DEPARTMENT OF CONSERATION AND RECREATION REVIEW

Checking is only for general conformance with the design concept of the project & general compliance with the information given in the contract documents. Notations are subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; Fabrication processes and techniques of construction; Coordination of all work with that of all other trades and the satisfactory performance of all contract work.

REMARKS:

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1. GENERAL

1.01 SCOPE

- A. This Section includes requirements for temporary facilities and controls including, but not necessarily limited to, sanitary facilities, utilities and drinking water.
- B. All temporary facilities required by the Contractor as specified herein and elsewhere within the Contract Documents shall be furnished by the Contractor, and shall meet all federal, state and local codes and requirements for such temporary installations. All temporary facilities shall be provided and maintained so as not to create fire or safety hazards. Costs necessary to satisfy all requirements specified herein shall be borne by the Contractor. All temporary facilities shall be entirely removed upon completion of the work and the site shall be left in a clean condition to the satisfaction of the Department (DCR).
- C. Possible contractor staging areas are located as shown on the Contract Drawings. Additional supplemental staging areas may be available for use at alternate locations upon written request to the DCR. The locations of all temporary facilities described must be approved by the DCR and Resident Engineer.
- D. The Work of this Section shall include the provision and maintenance of certain equipment for the use of the Department's Resident Engineer. Certain equipment shall either remain property of the Department at the completion of the project, as specified herein.

1.02 TEMPORARY ELECTRICITY

- A. No later than ten (10) days prior to bringing the facilities on site, the Contractor shall develop and submit a description of the temporary facilities and services to be used by the Contractor, including the location of laydown/storage areas, fueling areas, fencing, proposed temporary office trailer, and any other temporary facilities.
- B. Provide electricity to portions of the Project by means of temporary on-site generators. On-site generators must comply with local ordinances on noise control and fuel containment.
- C. Temporary lighting and wiring shall be installed in accordance with all local, state, and federal regulations.
- D. Ground fault circuit interrupters (GFCI) shall be required on all electrical equipment.
- E. The Contractor may elect to install temporary lighting to illuminate the worksite for work (or security purposes) after dark. However, the Contractor is subject to all local and state work ordinances and must file appropriate applications and receive acceptance prior to performing work outside of the approved window. The use of temporary lighting for security purposes or work after dark shall be only with prior approval of the Department.
- F. Provide guard cages or tempered glass enclosures where temporary lighting may be exposed to breakage. Provide exterior fixtures where temporary lighting may be exposed to moisture.

1.03 TELEPHONE AND INTERNET SERVICE

- A. The Contractor shall provide the Resident Engineer with the ability to send and receive facsimiles (including supplies for the fax) through either cell phone, wireless internet, or other, and maintain service for the duration of the project.
- B. A working telephone connection **MUST** be maintained by the Contractor at the site such that the site may be reached at all times during business hours. A cellular phone is acceptable, provided reception is consistent and adequate.
- C. The Contractor **MUST** provide his Superintendent with equipment that allows for e-mails to be sent and received at the site for the duration of the project.

1.04 TEMPORARY WATER SERVICE

- A. The Contractor is responsible for providing all materials equipment, labor and incidentals necessary to collect and transport water to work zones as needed in accordance with all applicable local, state, and federal policies and procedures. Such materials include but are not limited to water meters, appropriate check valves and flow meters required by the DCR. All charges, tariffs, and fees, as applicable, for the use of temporary water service shall be borne by the Contractor at no additional cost to the DCR. The Contractor is responsible for coordinating with the DCR to arrange for the provision of water from their system, if available.
- B. The Contractor shall furnish drinking water with suitable containers and cups for use of workers. Drinking water dispensers shall be conveniently located where Work is in progress, but outside of the Work Zones.

1.05 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide temporary sanitary facilities at the site outside of the Work Zone to be used by the Contractor. The Contractor shall maintain these facilities in a clean and sanitary condition and in such a manner as required or approved by the Resident Engineer. These conveniences shall be maintained at all times without nuisance. Upon completion of the Work, the sanitary facilities shall be removed by the Contractor from the premises, leaving the premises clean.

1.06 TEMPORARY BARRIERS, PROTECTION, AND TRAFFIC CONTROL

- A. The Contractor shall provide temporary barriers, protection, access and traffic controls in accordance with Section 01570.

1.07 SEDIMENTATION AND EROSION CONTROL

- A. The Contractor shall provide sedimentation and erosion control in accordance with Section 01560.

1.08 DUST CONTROL

- A. The Contractor shall control dust on the dam, excavation and fill areas, stockpiles, staging areas and all other areas of the Site. Means of control shall be subject to the approval of the Resident Engineer and be in accordance with local, state and federal permits, policies and procedures.

1.09 PROTECTION OF INSTALLED WORK AND EXCAVATIONS

- A. The Contractor shall protect installed work and excavations and provide special protection where necessary.
- B. The Contractor shall provide temporary and removable protection for equipment and open excavations, and control activity in the immediate work area to minimize damage.

1.10 SECURITY

- A. The Contractor shall be responsible for providing and maintaining security for protection of their work, equipment, supplies and employees and shall be responsible for protecting same from unauthorized entry, vandalism, or theft.

1.11 PROTECTION OF WORK FROM HEAT AND COLD AND WEATHER-RELATED EFFECTS

- A. In the event that hot or cold temperatures occur during construction, the Contractor shall take all measures and provide all necessary items to protect the Work of the project. This includes provisions for proper curing of concrete, grout and/or mortar.
- B. The Contractor shall provide all such temporary facilities needed to protect completed and on-going work and on-site materials from inclement weather, including rain, heat, snow, and cold. This shall include, but not be limited to, the provision of covers, shelters, heaters, etc. The use of rigid barriers for weather protection shall be used as required and as directed by the Department and/or Resident Engineer.
- C. Temporary heating units shall have been tested and labeled by UL, FM, or other recognized association related to the type of fuel being used and maintain reasonable temperatures within the temporary enclosures.
- D. The Contractor shall be responsible for maintaining and/or restoring access and appropriate working conditions at the site in the event of inclement weather. This shall include, but not be limited to, providing for plowing and ice removal in the event of snow and freezing temperatures.
- E. The Contractor shall be responsible for all necessary snow and ice removal to allow access to and work at the Site. Snow plowed or removed by the Contractor may not be disposed of in Bellevue Pond or any other waterway or wetland resource area.

1.12 REMOVAL OF TEMPORARY FACILITIES AND CONTROLS

- A. The Contractor shall remove temporary equipment and materials after completion and acceptance of work at the Site. Lawfully dispose of all waste, trash, and other debris generated during the Work of the Contract.
- B. The Contractor shall clean and repair damage caused by installation or use of temporary facilities and controls at no additional cost to the DCR.
- C. Restore existing and permanent facilities used during construction to original or better condition at no additional cost to the DCR.

1.13 TEMPORARY FIRE PROTECTION

- A. All operations on respective site premises shall be so performed that no fire hazards are created or are permitted to exist. If the Contract Work involves a fire hazard, sufficient firefighting equipment with trained, capable operators shall be in the area to contain any fire until the local fire department arrives. The Contractor shall make sure that persons employed directly or indirectly by the Contractor, while on the site premises, comply with all pertinent local, state and federal fire regulations. The Contractor shall have a procedure for properly addressing any burning activity that begins to get out of control. The Contractor shall be responsible for compliance by personnel of his organization for their cooperation in fire prevention, fire reporting and protective measures to minimize loss.
- B. Provide portable UL rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide portable UL rated Class ABC dry chemical extinguishers or a combination of NFPA recommended Classes for the exposure. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.
- C. No burning of material is allowed.

1.14 MISCELLANEOUS REQUIREMENTS

- A. The Contractor shall provide temporary medical and first-aid supplies at the work site, adequately equipped, maintained and located, to serve the needs of the workmen and employees of the Contractor, subcontractors and assigned contractors.

1.15 SUBMITTALS

- A. No later than ten (10) calendar days prior to bringing the facilities on site, the Contractor shall develop and submit a description of the temporary facilities and services to be used by the Contractor, including the location of laydown/storage areas, fueling areas, fencing, and any other temporary facilities.

PART 2. PRODUCTS

2.01 EQUIPMENT

- A. The Contractor shall provide all necessary equipment related to the requirements of this Section such that the work of the Contract can be conducted in accordance with the applicable Contract Documents.

PART 3. EXECUTION

3.01 GENERAL

- A. The Contractor shall sweep and clean as necessary to maintain neat, orderly work areas.
- B. The Contractor shall furnish all materials and perform all work necessary, including excavation and backfill. No disturbance will be allowed in areas outside those indicated on the plans, without prior approval from the DCR. The Contractor will be responsible for repairing all cuts

made for temporary utilities and for the removal of temporary utilities and post-removal restoration.

3.02 MAINTENANCE AND SERVICING

- A. The Contractor shall furnish full maintenance and service for all Temporary Facilities and Controls. Trash, garbage and other wastes shall be lawfully, properly, and satisfactorily disposed of by the Contractor at regular intervals.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

No measurement shall be made of any work performed under this section.

4.02 PAYMENT

Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, associated with the work under this Section shall be paid for under the General Conditions at the applicable Lump Sum price for Item 01500.1 stated on the Form for Bid.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01500.01	Temporary Facilities and Controls	Lump Sum

END OF SECTION

SECTION 01510
TEMPOARY PROJECT SIGN AND PUBLIC INFORMATION

PART 1. GENERAL

1.01 SCOPE

- A. The Work of this Section shall also include the fabrication, provision, installation, and removal of the Project Sign (including DEP sign) and separate Project Description Sign, as specified by the Department.
- B. The Work of this Section shall also include such additional work as the Department deems necessary for informing the public of the work at the site. This public information work shall include all such work not otherwise required under other Sections of the Work or as conditions in permits issued to the Project. The Department has provided for an allowance to pay for the additional public information work executed under this Section.

1.02 TEMPORARY PROJECT SIGNAGE

- A. The Contractor shall provide and install a project sign in a location designated by the Department. The sign shall generally conform to the specifications stated in the Supplementary General Conditions and as shown below.
- B. A separate sign listing the DEP permit file number shall be posted at the site as per the requirements of the Supplementary General Conditions and as per the requirements of permits issued under the Wetlands Protection Act. The cost of the DEP sign shall be included in the price bid for the main Temporary Project Sign.
- C. A separate project description sign shall also be provided as a separate unit for payment under this Section.

1.03 SUBMITTALS

- A. No later than ten (10) days prior to fabricating the signs, the Contractor shall provide a proof copy of the layout of the temporary project signs.
- B. The Contractor shall submit to the Department advance copies of any material to be used for public information.

PART 2. PRODUCTS

2.01 TEMPOARY PROJECT SIGNAGE

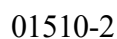
- A. The Standard DCR Construction Sign and DEP signage shall be made of durable wood or metal and shall be maintained throughout the duration of the Contract. Sign supports shall also be durable wood or metal and shall be provided as part of the price bid for this item.
- B. The Contractor shall construct and install a Standard DCR Construction Sign as per the sketch below, and including the specified content. The location of the project sign shall be approved by the Department. The Contractor shall also construct and install a Standard DEP Construction Sign

C. The final Project Sign configuration and content shall be reviewed and approved by the Department prior to fabrication.

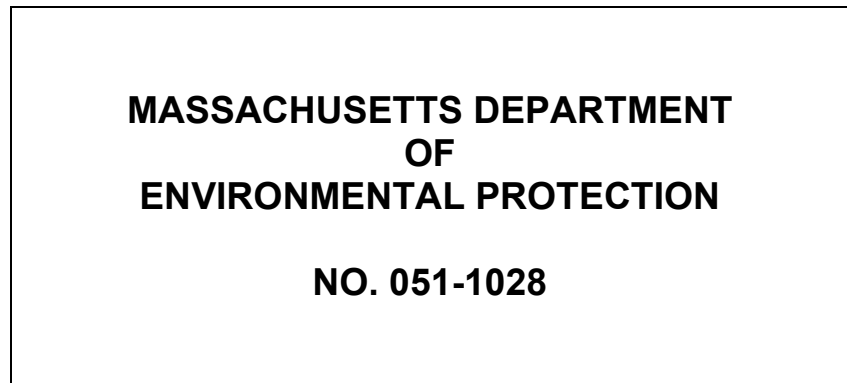
D. Standard DCR Construction Sign

The sign shall read:

(Contractor's Name Here)
Contractor



E. Standard DEP Construction Sign



Notes:

1. Contractor is to submit letter size and spacing for the completion of the sign according to the sketch given.
2. Sign plate shall be 3/4" plywood (marine grade) 2' - 0" wide by 1' - 0" high.
3. The department shall determine the location and method of installation of this sign.
4. One (1) sign is required.

- F. The following Project Description Sign shall be placed on a smaller (approx. 2' x 2') sign and attached to one of the project sign support posts.

BELLEVUE POND DAM REHABILITATION PROJECT

PROJECT DESCRIPTION

The Bellevue Pond Dam (MA03334) is located within the Middlesex Fells Reservation in Medford, Massachusetts. The Dam impounds Bellevue Pond and discharges via a spillway to a stilling basin, then under a culverted rock wall to Floyds Brook beyond.

The Bellevue Pond Dam Rehabilitation Project is being completed to improve dam safety, access, and operability and to help provide future safety to the public. The Commonwealth of Massachusetts and the Department of Conservation & Recreation are funding the Project. Dam repairs will include demolition and reconstruction of the existing deteriorated weir structure, removal of sediment from the spillway, demolition and reconstruction of the spillway slab, reconstruction of the stoplog bay, limited repointing of the upstream and downstream stone masonry headwall, installation of loam and seed, fill and mulch, and vegetation along the downstream eroded path, regrading of the gravel hiking trail northeast of the dam, and installation of granite steps with gravel infill along the eroded hiking trail northeast of the dam.

Construction activities will include the provision of numerous environmental controls to reduce project impact on the environment. The construction site has been fenced off for safety during the project work. All temporary fencing will be removed once the project is complete.

The project is anticipated to be complete by November 2027.

PART 3. EXECUTION

3.01 SIGNAGE

- A. Install the signage in locations as directed by the Department.
- B. Maintain signage throughout the duration of the project. The Contractor shall repair or replace the signage at their sole expense in the event of damage, removal, or theft.
- C. Remove all temporary signage at the completion of the project and lawfully dispose. Fill post holes.

3.02 PUBLIC INFORMATION

- A. DCR may request the Contractor to take certain steps to assist in providing information to the public regarding this project. This assistance may take the shape of additional informational signage, newspaper ads, or other similar outreach actions.
- B. DCR will provide the Contractor with the form and text of any requested public information steps which are to be executed under this item.
- C. The Work of this Section is separate from any required public information steps which are required in other Sections of the Work and/or by permit conditions. The cost of public information notices and other similar steps (including but not limited to signs, newspaper ads, etc.) required under other Sections of the Work and/or by Permit Conditions shall be included in the price bid for other Items and shall not be applied against the allowance for this item.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement for the provision of the Temporary Project Signage shall be on the basis of the actual number of approved, in-place signs, each. No separate measurement shall be made for DEP Sign.
- B. Measurement for Public Information actions shall be dependent on the action requested by the Department.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove Temporary Project Signage shall be paid for at the applicable unit price for Item No. 01510.01 stated on the Form for Bid. The cost of this item shall include -all mounting and supports.
- B. The Contractor shall include in his or her bid a Lump Sum Allowance of One Thousand Dollars (\$1,000) for providing Public Information services, as specifically requested by the Department. The Contractor must submit certified copies of itemized bills for the services rendered for review and approval by the Department. This lump sum allowance will be adjusted to the actual amount paid, plus authorized markup, for authorized and approved services.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01510.01	Temporary Project Signage	Each
01510.02	Public Information	Allowance

END OF SECTION

SECTION 01560

TEMPORARY EROSION AND SEDIMENTATION CONTROLS

PART 1. GENERAL

1.01 DESCRIPTION

- A. The Contractor shall furnish all labor, materials and equipment and shall perform all work required to install, maintain, and remove erosion, sedimentation, and siltation control measures to protect the site, water bodies, streams, and drainage structures from siltation and sedimentation damage and accumulation or damage from other byproducts of the work during this Contract, as specified herein and as directed by the Department or its Resident Engineer.
- B. Erosion control measures are used to prevent the displacement of soil. Such measures may include, but not be limited to, grading, erosion control matting, plastic coverings, mulching, temporary seeding, riprap, check dams, cross tracking, and other items intended to stabilize soil material and/or reduce the erosive potential of water.
- C. Sedimentation and siltation control measures are used to prevent the movement and transport of soil particles. Sedimentation and siltation control measures may include, but not be limited to, use of sedimentation basins, filtration dams, siltation sumps, linear siltation barriers, turbidity curtains, construction entrances and other items as necessary to contain sediment and other deleterious material produced from excavation and filling, dewatering, and related contract operations.
- D. The Work shall also include all work necessary to continually clean and maintain and promptly repair/replace all erosion, sedimentation, and siltation measures as needed to sustain their intended function and operability.
- E. It is the intent of this Section that the Contractor shall be responsible for the use of all Best Management Practices (BMPs), both structural and operational, to reduce, to the greatest extent possible, the erosion and transport of soil and sediment. The Contractor shall be responsible for implementing all measures which are both prudent under good construction practices and required under local, state, and Federal regulations and law. The Contractor shall also be responsible for all monitoring, maintenance, and repair of all BMPs utilized. In the event of the failure of sediment and erosion control BMPs, the Contractor shall be responsible, at no additional cost to the Department, for all work necessary to mitigate and correct the situation, including, but not limited to, the removal of transported sediment.
- F. The Contractor shall deploy all Best Management Practices (BMPs), both structural and operational, to reduce, to the greatest extent possible, the erosion and transport of soil and sediment, and monitor, maintenance, and repair said BMPs. The work of this Section shall include sediment and erosion controls as shown on the Contract Plans and as needed elsewhere, including staging and laydown areas.

1.02 SCOPE OF WORK

- A. The scope of the Work of this Section shall include the installation of Temporary Sedimentation and Erosion Control Barriers, as shown on the Contract Plans, and as needed elsewhere. This work shall also include the monitoring, cleaning, maintenance, and repair of all installed barriers and the proper removal and disposal of the barriers after final stabilization of the site.
- B. General work covered and paid for under this Section shall include the installation of all other sediment and erosion control BMPs, as shown on the Contract Plans, and as needed elsewhere. This work shall also include the monitoring, cleaning, maintenance, and repair of all installed sediment and erosion control BMPs and disposal of same fencing after final stabilization of the site. General work covered and paid for under this Section shall also include all other work, including recordkeeping and reporting, necessary to meet the conditions of the Contract Documents, Permits, Approvals, Licenses issued for the project and all relevant codes, rules, regulations, laws and ordinances applicable to sediment and erosion control.

1.03 SPECIAL CONDITIONS

- A. All work shall comply with all codes, rules, regulations, laws and ordinances and shall be executed in conformance with any permits, licenses etc., as issued by the City of Medford, Commonwealth of Massachusetts Department of Environmental Protection (DEP), the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency (EPA) and all other authorities having jurisdiction within the project areas. All work necessary to make site preparation comply with such requirements shall be provided without additional cost to the Department.
- B. Copies of all permits and licenses listed under Sections 01060 – Regulatory Requirements are contained in the Contract Documents or will be forwarded to the Contractor prior to the beginning of the work. The Contractor shall be responsible for conducting his/her work in accordance to all provisions of said permits.
- C. The Contractor shall procure all other required permits and licenses, (except for those to be obtained by the Department as stated herein), pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work under this Contract. The cost thereof shall be included in the prices bid for the various items specified herein for the work of this Contract. Copies of all required permits and licenses shall be filed with the Department prior to the beginning of the work.
- D. The Contractor shall be responsible for developing a site-specific sediment and erosion control plan which shall be submitted to the Department. The Contractor's plan shall incorporate the requirements of this Section and the controls and BMPs shown on the Contract Drawings; however, it shall be understood that these measures called for in the specifications and on the plans represent the MINIMUM acceptable level of sediment and erosion control. The Contractor's plan shall be designed to account for the anticipated work plan, construction sequence, and anticipated level of disturbance.
- E. The Contractor shall be responsible for adhering to the requirements of the City of Medford Order of Conditions.
- F. No work of any type in any area shall commence until erosion and sedimentation control measures are in place to the satisfaction of the Department and the Medford Conservation Commission.

1.04 IMPLEMENTATION

- A. The Contractor shall familiarize him/herself with the nature of work to be performed. The Contractor shall be responsible for scheduling his submittals and/or meetings, if required, with the applicable regulatory agencies.
- B. Measures may include, but not be limited to, the following:
 - 1. Sediment and Erosion Control Barriers
 - 2. Stabilized construction entrances
 - 3. Sediment Settling Tanks
 - 4. Filling and stabilizing of erosion gullies with gravel
 - 5. Application of weed-free straw (or other approved) mulch
 - 6. Temporary swales to divert drainage flow
 - 7. Energy dissipaters for pipe, culvert, and hose discharge points

1.05 LOCATION AND STORAGE OF MATERIALS

- A. No materials shall be dispersed or stockpiled in any areas beyond the authorized limits of disturbance, except in areas specifically designated for spoil disposal. No excavated materials or materials to be used in backfilling shall be deposited within fifty feet (50') of the spillway and related areas, watercourses, wetland areas or drainage facilities unless appropriate and approved measures are specifically taken to protect adjacent resource areas. Materials rejected for use in the Work shall be removed and disposed of as soon as practical to do so. Adequate protective measures shall be taken to prevent the erosion of stockpiled and/or placed materials and resultant sedimentation of adjacent spillways and related areas, watercourses, wetland areas or drainage facilities, during the course of performing the work.
- B. The Contractor shall be responsible for all BMPs necessary around and over material stockpiles to prevent sediment transport. Specifically, BMPs shall be provided at all stockpiles of excavated and dredged materials.

1.06 PROTECTION OF WATER AND WETLAND RESOURCES

- A. The Contractor shall employ Best Management Practices (BMP's) throughout the conduct of the work of this Contract and ensure that impact to Bellevue Pond, and associated wetland resource areas is minimized.
- B. The Contractor shall not store or discharge fuel oil, sewage, septic water or other deleterious substances into streams, lakes, reservoirs, groundwater supplies or wetland resource areas. The storage of fuel oil and refueling of equipment shall be restricted to designated areas approved by the Resident Engineer, the Department and regulatory agencies. Machinery shall not be refueled or washed within 100 feet of any resource area. Any spillage of deleterious substance (fuel oil, sewage, septic waste, etc.) shall be reported to the Resident Engineer, the Department, and appropriate regulatory agency, by the Contractor and appropriate measures taken, (at costs solely borne by the Contractor) as determined by the regulatory agency, to contain and to clean up the affected areas. Any water that is pumped or bailed from the excavations shall be conveyed by conduit or hose to approved points of discharge. Sedimentation barriers shall be cleaned and/or replaced periodically to ensure effective control and protection of wetlands and water resource areas.

- C. The general sediment control performance standard is outlined in the Massachusetts State Water Quality Standards (314 CMR 4.00). These regulations state the following regarding discharges into freshwater waterways. The Contractor shall insure that temporary erosion and sediments controls are adequate to insure compliance with these regulations, or other more stringent regulations, as needed.

Solids - These waters shall be free from floating, suspended and settleable solids in concentrations or combinations that would impair any use assigned to this class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.

Color and Turbidity - These waters shall be free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to this class.

- D. The Contractor shall provide sediment and erosion controls, as needed, to meet the above performance standards. The Contractor shall be responsible for meeting said performance standards and shall be responsible for any consequences for failing to meet said standards.
- E. At no time shall silt or sediment be allowed to enter the resource areas. The Conservation Commission must be notified within 24-hours if any silt or sediment enters the resource area.

1.07 RELATED WORK SPECIFIED ELSEWHERE

- A. The following is a list of related work items that shall be performed or furnished under other Sections of these Specifications as indicated.
1. Temporary Water Control: Section 01565
 2. Clearing, Grubbing, and Stripping: Section 02110.
 3. Earthwork: Section 02200.

1.08 SUBMITTALS

- A. A written plan detailing the methods and layout of BMPs proposed to contain sediments, soils, and debris at the site must be submitted to the Department for review and approval prior to proceeding with the work of this Section. If required by the Orders of Conditions, the plan shall also be submitted to the Medford Conservation Commission.
- B. The methods and materials for proposed construction of individual BMP's, including sedimentation control fences or barriers shall be submitted to the Department for review and approval prior to proceeding with the work of this Section.
- C. A written plan, either included within the overall plan or as a standalone document, detailing the Contractor's plan for in-water sediment and erosion control barriers.
- D. The written plan shall detail the phasing of the installation and removal of the proposed BMPs.

PART 2. PRODUCTS

2.01 TEMPORARY GRASS SEED

- A. Temporary grass seed shall not be used for this work.

2.02 HAY BALES / STRAW BALES

- A. Neither hay bales nor straw bales shall be used for this work.

2.03 WOOD CHIP BERM

- A. Wood Chip Berms are not an acceptable form of Temporary Sedimentation and Erosion Control Linear Barrier for use on land at this site.

2.04 COMPOST FILTER SOCK / TUBE

- A. Composite Filter Socks / Tubes are acceptable forms of Temporary Sedimentation and Erosion Control Linear Barrier for use on land at this site.
- B. Filter sock shall be made of 100 percent organic hessian fabric (burlap) or bio-degradable 5 mil HDPE.
- C. Replacement will be required after 6 months if final stabilization not achieved.
- D. Organic matter content shall be between 20 to 100 percent (dry weight basis) as determined by ASTM 02974 (Method A) Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils.
- E. Moisture content shall be less than 150 percent dry weight (less than 60 percent wet weight) as measured by ASTM 02218 Standard Test Method for Laboratory Determination of Water Content of Soil and Rock and ASTM 02974.
- F. Particle size shall be measured by sieving and shall be as follows:

100%	passing 75 mm sieve
70-100%	passing 19 mm sieve
30-75%	passing #4 sieve
20-40%	passing #20 sieve

No particle shall be longer than 150 mm
- G. Soluble salts shall be less than 5.0 mmhos / dm (ds/m)
- H. pH shall be between 5.5 and 8.0
- I. Filter Socks shall be placed parallel to contour with both ends of the sock extended upslope at 45 degree angle to rest of sock to prevent 'end around'.
- J. The Contractor shall maintain the filter tubes in a functional condition at all times, including inspections after each rainfall and at least daily during prolonged rainfall.

- K. For final removal, the Contractor shall rake out so that filter material is not greater than 3 inches in depth of soil substrate.
- L. Filter tubes shall be staked as necessary with be one-inch by one-inch (1" x 1") construction grade timber driven 24 inches into the ground to provide stability. Other stabilizing methods shall be used, as needed, in locations where staking is not possible.

2.05 SOIL MATERIAL

- A. Soil material for use in sediment and erosion control measures shall conform to the specifications set out in Section 02200 – Earthwork. In general, all soil material must be clean, stable, and free or silt, clay, and organics.

2.06 STONE AND ROCK

- A. Stone and rock material for use in temporary sediment and erosion control measures shall conform to the material specifications of the Massachusetts Highway Department. In general, all soil material must be clean, stable, and free or silt, clay, and organics. Sizing of the stone shall be determined by the Contractor and shall be appropriate for expected flow rates and velocities. Storms with return periods of not less than two-years should be used in determining the sizing of stone and rock. Stone and rock used for temporary sediment and erosion control shall be completely removed when the intended purpose is complete.

2.07 STABILIZED CONSTRUCTION SITE ENTRANCE

- A. A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- B. The stabilized construction site entrance shall be installed as shown in the Contract Drawings
- C. The stabilized construction site entrance shall be constructed of 3-inch minus clean crushed stone with a minimum layer thickness of 6 inches. Crushed stone shall be placed upon filter fabric as needed.
- D. Construct features to channel runoff away from the road and towards sediment and erosion BMPs.
- E. Inspect and clean as needed to maintain efficiency.
- F. Remove and properly dispose of all material prior to site stabilization.

2.08 OTHER MATERIALS

- A. Other materials required for completion of the work in this Section shall be of adequate quality and construction such that intended performance is satisfied.

PART 3. EXECUTION

3.01 INITIAL CONSTRUCTION ACTIVITIES AND PRELIMINARY DRAINAGE CONTROL

- A. The Contract Drawings show the deployment of linear erosion and sediment control barriers in locations shown on the plans. The limits of these controls have been established based on anticipated site conditions. Prior to the installation of any sediment / erosion control barrier in the work area, the Contractor, Department, Resident Engineer, and Engineering Design Consultant shall meet on site to discuss conditions. Any adjustments to the configuration shown on the Contract Plans shall be discussed at that time and mutually agreed upon.
- B. Prior to beginning any clearing, stockpiling, excavation or filling, the Contractor shall perform the following sequence of implementation of sedimentation and siltation control measures.
 - 1. Perform all necessary work to install all anticipated sedimentation barriers including but not necessarily limited to linear sediment / erosion control barriers, stabilized construction entrances, and other items as necessary. Provide all necessary sedimentation and siltation control measures as required by the Resident Engineer, the Department and regulatory agencies, to minimize sedimentation or siltation from occurring beyond the immediate limits of work.
 - 2. In addition to initial sedimentation and siltation control set-up measures, take additional steps as necessary to minimize sedimentation and siltation within work areas and eliminate sedimentation and siltation outside of work areas throughout the conduct of the Work at no additional cost to the Department.
 - 3. Following initial setup of sediment and erosion controls, the site shall be inspected by the Department, Resident Engineer, Engineering Design Consultant, and Conservation Agent. No work can continue until the Erosion controls meet the approval of the Conservation Commission.
 - 4. Damaged or loose siltation barriers or other control measures shall be replaced as necessary to maintain their function of controlling sedimentation and siltation. Stabilized barriers as needed if additional support is necessary.
- C. Remove any accumulation of silt or soil build-up behind linear sediment / erosion control barriers, other siltation dams, or on the stabilized construction entrance, as it occurs. Remove accumulations of silt and soil build-up from, sedimentation basins, silt traps, and within the cofferdam area as necessary to properly maintain their function.
- D. Following periodic cleaning of all sedimentation controls and upon completion of the use of the controls, the accumulated sediment shall be allowed to dry prior to transporting to lawful off-site upland disposal locations. Costs of said disposal shall be included as part of the price stated on the Bid Proposal Form.
- E. The Contractor shall repair any damage resulting from sedimentation or siltation during subsurface exploration program and related activities and restore property to its prior condition at no additional cost to the Department.

3.02 ADDITIONAL EROSION AND SEDIMENTATION CONTROLS

- A. The Resident Engineer shall make periodic inspections of the site and shall advise the Contractor of the need for additional erosion and sedimentation controls necessary to meet the performance standards of this Section. Representatives of the Department and of the Conservation Commission may also make inspections.
- B. Additional erosion and sedimentation control necessary to deal with transient conditions on the site, such as following the placement of topsoil but prior to the establishment of grass cover, shall be provided by the Contractor as needed and at no additional cost to the Department.

3.03 INSPECTION AND MAINTENANCE

- A. Throughout the entire duration of the Contract (including periods when actual site work is not being conducted), the Contractor shall perform weekly inspections of erosion and sediment control installations. Additional inspections shall be required immediately after each rain event exceeding one-half (0.5) inches in a 24-hour period. The Contractor shall develop a checklist to assist with periodic inspection and maintenance and shall keep completed copies of the checklist for each inspection on file along with the sediment and erosion control plan.
- B. Throughout the entire duration of the Contract (including periods when actual site work is not being conducted), the Contractor shall repair any damage resulting from sedimentation or erosion during construction and/or construction related activities and restore property to its prior condition at no additional cost to the Department.
- C. Throughout the entire duration of the Contract (including periods when actual site work is not being conducted), the Contractor shall take such steps as are necessary to maintain the sediment and erosion controls in good working order, including repair or replacing controls and cleaning or removing sediment from controls.
- D. The entrance to the Site shall be maintained in a condition that will prevent tracking or flow of mud onto public right-of-way or adjacent roadways. All materials spilled, dropped, washed, or tracked from vehicles onto public roadways or into on- or off-site storm drains must be removed immediately.
- E. In the event of inclement weather, the Contractor shall protect the site and materials from damage from the weather. If, in the opinion of the Department or its Resident Engineer, any portion of the Work or materials has been damaged by reason of failure on the part of the Contractor to so protect the Work, such Work and materials shall be removed and replaced with new materials and Work to the satisfaction of the Department. Weather protection shall include all activities necessary to prevent the spread of sediment from wind, runoff, erosion, and other causes.

3.04 REMOVAL AND CLEANUP

- A. After the site has been fully stabilized against erosion and upon the approval of the Resident Engineer, remove sediment control devices and accumulated silt. Legally dispose of off-site all accumulated silt and all sedimentation and siltation control devices such as, but not limited to linear sediment / erosion control barriers, sandbags, and other related products. On-site disposal of clean sediments in upland area shall be allowed only with the express approval of the Department.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement of Temporary Sedimentation and Erosion Control Linear Barriers shall be on a basis of the actual, in-place length of acceptable, functional Temporary Sedimentation and Erosion Control Linear Barriers, in Linear Feet. Measurement shall be made by taping the length, or by other methods mutually acceptable to the Department and the Contractor. No separate measurement shall be made for moving or re-setting the barriers.
- B. No measurement for payment of all other general sediment and erosion control measures or materials, including, monitoring, and maintenance, shall be made. The bid item for Temporary Sediment and Erosion General Controls shall be a lump sum quantity.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove Temporary Sedimentation and Erosion Control Linear Barriers shall be paid for at the applicable unit price for Item No. 01560.01 stated on the Form for Bid.
- B. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, clean, and remove all other Temporary Erosion and Sedimentation General Controls shall be paid for at the applicable lump sum price for Item No. 01560.02 stated on the Form for Bid. Payment for this item shall be on the basis of 20 percent of the lump sum bid price payable after initial deployment of the General Controls and 10 percent per month thereafter until final stabilization of the site, whereupon the balance will be paid.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01560.01	Temporary Sedimentation and Erosion Control Linear Barriers	Linear Foot
01560.02	Temporary Erosion and Sedimentation General Controls	Lump Sum

END OF SECTION

SECTION 01565
TEMPORARY WATER CONTROL

PART 1. GENERAL

1.01 DESCRIPTION

- A. This section specifies the removal and control of water in the work area to permit all excavation, construction, installations, and repairs to be performed in the dry. Water control shall be provided such that the Work of the Contract can proceed unhindered by water and flow into or through the work area. Water control shall also extend to all provisions necessary to control water in and from Bellevue Pond and surface drainage from upland areas from flowing into, disrupting, and damaging the work area. All work shall be performed in accordance with the plans and specifications and to the satisfaction of the Department. Water control is of the utmost importance.
- B. The Department will not lower or otherwise manage impoundment levels to coincide with the Work. **The Contractor shall be responsible for determining the need for and the means and methods of implementing water control during the work of the Contract,** except as specifically stated herein and in other Sections. The Resident Engineer will monitor conditions at the site and the effects of water levels and flows on the Work. If, in the Resident Engineer's opinion, the presence of water has the potential to create a deleterious effect on the Work, then the Contractor shall take immediate measures to remove all equipment, material, and personnel, from the work area to the satisfaction of the Resident Engineer at no additional cost to the Department.
- C. The control of surface water shall consist of installing such provisions, as needed, to divert, reduce, or stop water which may be flowing into, on, or through the work site. The Contractor will need to implement measures to protect the work area against inflow from the impoundment of Bellevue Pond. The need for control of surface water may change over the course of the project depending on the work underway, as well as rainfall/runoff conditions encountered. Pumping, siphoning, and/or other methods may be required for certain activities.
- D. The Contractor shall take all necessary precautions during construction to provide and maintain proper equipment and facilities to remove promptly and dispose of properly, all water entering work areas and keep work areas dry, as necessary. The Contractor shall implement such temporary surface water control measures as necessary to maintain the water level such that all work, where judged necessary by the Department or Consultant, proceeds in the dry. Temporary water control work may include, but shall not be limited to diversion pipes, channels, swales, pumps, siphons, culverts, temporary cofferdams, etc.
- E. Water control measures shall be kept in operation by the Contractor, as needed, until all work within those areas of the work zone subject to interference by surface water is complete and accepted by the Department.
- F. The Contractor shall remove all channeled, pumped, diverted, or siphoned surface water away from the work area, and provide sedimentation control and recharge in accordance with all applicable local codes and laws. Requirements specified in the Medford Conservation Commission's Orders of Conditions shall be met during this process. All water which is discharged by water control measures shall be passed through appropriate and adequate sediment and/or filtration measures such that the effluent meets the standards set out in Section 01560 and those provided below.
- G. All temporary surface water control work shall be coordinated with temporary sedimentation and erosion control work as specified under Section 01560 and in the Contract Drawings.

- H. The Contractor shall install and maintain temporary staff gages and/or measurement points as necessary to provide for water level measurement during construction upstream of the Site. One shall be installed upstream in Bellevue Pond to record pool levels on a daily basis. Pool levels shall be recorded in a log and a copy provided to the Resident Engineer each day.

1.02 SCOPE

- A. The Work of this Section includes the furnishing of all labor, equipment, supplies, materials and utilities required for the operation, maintenance, and supervision of temporary water control at Bellevue Pond to control surface water on and around the Site such that all construction within this Contract can proceed unhindered by water and flow into or through the work area. The Work of this Section further includes the furnishing of all labor, equipment, supplies, materials and utilities required for the operation, maintenance, and supervision of efforts to maintain the quality of surface water collected and discharged by the surface water control systems.

1.03 ADHERENCE TO REGULATORY CONDITIONS

- A. All work shall comply with all codes, rules, regulations, laws and ordinances and executed in conformance with any permits, licenses etc., as issued by the City of Medford, Commonwealth of Massachusetts Department of Environmental Protection (DEP), Commonwealth of Massachusetts Department of Conservation and Recreation (DCR), the U.S. Army Corps of Engineers, and all other authorities having jurisdiction within the project areas. All work necessary to make the work site comply with such requirements shall be provided without additional cost to the Department.
- B. Copies of all permits and licenses listed under Sections 01060 are included in the Contract Documents or will be forwarded to the Contractor prior to the beginning of the work. The Contractor shall be responsible for conducting his/her work in accordance with all provisions of said permits.
- C. The Contractor shall procure all other required permits and licenses, (except for those to be obtained by the Department as stated herein), pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work under this Contract. The cost thereof shall be included in the prices bid for the various items specified herein for the work of this Contract. Copies of all required permits and licenses shall be filed with the Department prior to the beginning of the work.
- D. The Contractor shall be responsible for complying with all orders and permit conditions of the Medford Conservation Commission and other regulatory bodies for the installation, maintenance, and removal of all erosion and sedimentation control measures.
- E. No work of any type in any area shall commence until sedimentation control measures are in place to the satisfaction of the Department and its Resident Engineer.

1.04 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other sections of these specifications as indicated:
 - 1. Summary of Work – Section 01010
 - 2. Regulatory Requirements – Section 01060
 - 3. Temporary Erosion and Sedimentation Control – See Section 01560

1.05 SUBMITTALS

- A. Not less than two (2) weeks prior to the scheduled start of work, the Contractor shall submit his proposed method of controlling surface water and maintaining dry conditions to the Department for review. The submittal shall include as a minimum the following items:
1. The Contractor's proposed design, sequence of operation, maintenance and supervision of the surface water and control systems, as needed for each phase of the work, and coordination with temporary groundwater control.
 2. The Contractor's proposed contingency plan for additional surface water measures for all systems in the event of system failure – monitoring, instrumentation, on-call repair, etc.
 3. Scheduling requirements with regard to Sedimentation Control and groundwater control.
 4. The Contractor's proposed contingency plan for potential storm emergency conditions (i.e. anticipated heavy rainfall). The contingency plan should address, but not to be limited to, measures for handling flooding of the work area, removing equipment and materials from the work area, and stabilizing exposed portions of the embankment which might be subject to erosion from surface water flow from adjacent uplands.

1.06 WATER CONTROL RESTRICTIONS

- A. The Contractor shall abide by the conditions of all relevant permits issued to the Project which pertain to Water Control. The Contractor alone shall be responsible for meeting the conditions of the permits and shall be held accountable for penalties as a result of violations of permit conditions.
- B. In the event that dry conditions lead to naturally low levels in the upstream impoundment, the Contractor will NOT be required to take steps to raise the water level beyond what would occur naturally.
- C. The Contractor is hereby made aware that the Department has no control over inflows into Bellevue Pond. Major rainfall events may cause the level of Floyds Brook and Bellevue Pond impoundment to rise and lead to potential inundation of the work site. In the event of uncontrolled increases in Bellevue Pond water level, the Contractor shall undertake measures to protect existing structures and new work, including but not necessarily limited to by-passing, pumping or siphoning of water upstream in order to maintain the level in Bellevue Pond within specified levels and at no additional cost to the Department.

1.07 MAXIMUM WATER CONTROL DISCHARGE RATE

- A. The total flow rate from all Contractor water control operations shall be such that significant downstream erosion, flooding, or other damage is avoided, in the opinion of the Resident Engineer, Department, or regulatory authority. The Contractor's water control plan shall not lead to an increase in downstream flood impacts.

1.08 BYPASS FLOWS / MINIMUM DOWNSTREAM FLOW RATE

- A. While the Work along the dam is taking place, the Contractor may bypass impoundment water from Bellevue Pond and discharge water downstream of the dam into the downstream channel. The intent of the project is to maintain minimum flows downstream during the course of the Contractor's work, that are similar to the minimum flows under the current existing conditions. However, minimum seasonal low-flow rates are unavailable. During low-flow conditions the Contractor shall bypass a minimum of 2 gallons per minute (2 gpm). When water controls are removed and filling of the pond begins to occur, a minimum of 2 gallons per minute (2 gpm) shall be maintained.
- B. Intake for the bypass system shall be from a location where good quality surface water is present and no sediment and/or debris will be entrained.

1.09 PROTECTION OF WORK FROM FLOOD CONDITIONS

- A. The Contractor shall take all such precautions necessary to protect the site and the Works of this Contract, either completed or incomplete, from flood waters and flows which would either damage the Work or the site or cause a delay to the Work.

PART 2. PRODUCTS

2.01 DIVERSION BARRIER / COFFERDAM MATERIALS

- A. A hypothetical water control plan has been presented on the Contract Drawings. Dewatering means and methods shall be the responsibility of the Contractor and subject to approval by the Engineer and Department.

2.02 PUMPS, HOSES, SIPHONS

- A. Pumps, hoses, or siphons used at the site shall be sized appropriately and shall be maintained in good working order by the Contractor.
- B. Pumps shall be sized appropriately by the Contractor and shall operate in a manner which does not create a nuisance to abutters or the public (i.e. quietly and without significant exhaust).
- C. Secondary containment shall be provided as stipulated in permits for gasoline or diesel-powered pumping equipment. Fueling procedures shall be as per permit conditions.

2.03 PIPE

- A. Pipes and fittings used for water control shall be sized appropriately and shall be in good condition without leaks or cracks. Pipe pressure ratings shall be adequate for static head loading when pressure flow is expected. Pipe joints shall be watertight and installed as per the manufacturer's recommendations.

PART 3. EXECUTION

3.01 GENERAL SURFACE WATER CONTROLS

- A. This section defines the intent of water control work, but the Contractor shall ultimately be responsible for means and methods and compliance with the specification will be judged on a performance criteria. The Contractor shall submit a water control plan to the Department for review and may, at that time, propose alternative water control strategies. The Contractor's water control plan must however satisfy the terms and conditions of all permits issued to the project.
- B. If pumps or similar equipment is utilized, the Contractor shall maintain immediate access to back-up electrical generators, fuel, pumps, and related equipment and supplies with output capacity sufficient to maintain continuous operation of the water control systems in the event the original water control equipment or power source(s) which is in use becomes inoperable. The back-up generator, pumps and necessary equipment and supplies shall be capable of rapid deployment for replacement for the inoperable equipment.
- C. The Contractor shall take all reasonable and prudent precautions during construction to provide and maintain proper equipment and facilities to control and divert water.
- D. If necessary, water control systems shall be operated continuously during all construction specified herein. The operation time may include breaks, nights, weekends, holidays, and other times when work is not otherwise being performed on the site. Appropriate alarm systems (autodialed, etc.) shall be provided to provide alert and notification in the event of water control system failure.
- E. Surface water control in the site area shall account for the range of flow coordinated with the Department. Pumps, siphons, pipes, channels, etc. shall be sized appropriately.
- F. The Contractor shall make provisions to remove any impediments or obstructions (e.g. debris, material, equipment, etc.) to flow through water conveyance structures expeditiously during the entire project period and in the event of a flood event which threatens to overwhelm the water control system or cause increased water levels which might lead to damage at the Dam, or other property upstream or downstream of the Dam.
- G. If deployed by the Contractor, pumps must be operated in such a way as to not disturb abutters (e.g. noise). Pump intakes shall be placed so as to reduce the potential for sediment entrainment and pump discharge points shall make provisions for reducing erosion potential through energy dissipation, riprap protection, etc.
- H. Cofferdam / diversion barrier shall be constructed of such materials and to such extent that they will withstand the forces and pressures exerted by flows and depths of a reasonable expected magnitude. The cofferdams / diversion barriers shall be compatible with other dewatering, water control, and sedimentation control procedures. Dewatering equipment shall be provided as needed to remove water from the interior areas of cofferdams / diversion barriers, if used. All cofferdams / diversion barriers constructed by the Contractor shall be completely removed upon the completion of the Project. All material shall be legally disposed of off-site at the Contractor's expense. No material shall be left within the Work area.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No measurement will be made for Temporary Water Control. The bid item under this section, including both temporary surface water control, temporary construction dewatering and groundwater control, treatment of all discharge water, and a temporary cofferdam system to be of the size necessary to control water for the duration of the project, is a single lump sum quantity.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment, testing, monitoring, incidentals and mobilization/demobilization costs to provide Temporary Water Control and Treatment associated with the work of this Contract, including temporary surface water control and groundwater control and installation, maintenance, and removal of a temporary cofferdam systems shall be paid for at the applicable Lump Sum price for Item No. 01565.01 stated on the Form for Bid. Payment for this item shall be on the basis of 50 percent of the lump sum bid price payable after initial deployment of the Temporary Water Controls and 50 percent upon the substantial completion of the work.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01565.01	Temporary Water Control	Lump Sum

END OF SECTION

SECTION 01570
TEMPORARY ACCESS AND TRAFFIC CONTROL

PART 1. GENERAL

1.01 DESCRIPTION

- A. The Contractor shall provide temporary access and traffic control systems at the Project Site, including for the work area, staging areas, parking areas, public ways, and pedestrian trails and detours.
- B. The Contractor shall provide safety and security systems needed to protect the public from the Work of the Contract and exclude the public from access-controlled areas of the site, as well as to secure the site against vandalism and theft.
- C. The Contractor shall coordinate with the Department for the protection of traffic and pedestrians on existing roads, paths, and parking areas which will be interfered with by his operations.
- D. It is the intent of the Work of this Section that the Contractor shall take such steps as are necessary to:
 - 1. Protect the safety of the public on trails, the parking area, and on private and public ways.
 - 2. Provide traffic control, as needed, with signs, devices, and flagmen when necessary.
 - 3. Exclude the public from the job site for the safety of the public and security of the Contractor's work and equipment
 - 4. Prune branches and limbs from existing trees to approximately 8 feet from the ground (or higher as needed with approval from the Department or Resident Engineer) to prevent damage to trees by construction vehicles.

1.02 SCOPE OF WORK

- A. The scope of the Work of this Section shall include the provision and installation of Temporary Construction Fencing, as needed. This work shall also include the monitoring, maintenance, and repair of all installed Temporary Construction Fencing, and the proper removal and disposal thereof after completion of work at the site.
- B. General work covered and paid for under this Section shall include the provision and installation of all other General Temporary Access and Traffic Control Measures, as shown on the Contract Drawings, and as needed elsewhere. This work shall also include all necessary gates, barriers, locks, signs, etc. needed for access control. General work shall cover professional pruning of existing trees where construction vehicles will travel. **General work shall cover the development of a vehicular and pedestrian traffic control plan and the provision, installation, maintenance and removal of traffic control devices.** General work shall also cover the provision of flag men or other traffic control labor as described below. Signage shall specifically include, but not be limited to four road signs indicating construction ahead. **Also included under the work of this section shall be the Contractor's responsibility for cleaning of the paved surfaces of public roads impacted by construction traffic to the satisfaction of the Resident Engineer.** General work covered and paid for under this Section shall also include all other access and traffic control work necessary to meet the conditions of the Contract Documents, Permits, Approvals, Licenses issued for the project and all relevant codes, rules,

regulations, laws and ordinances applicable. The Contractor shall be responsible for obtaining all permits and approvals needed, if any, from municipal agencies relating to temporary traffic control. The Contractor shall pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work under this Contract.

1.03 SITE ACCESS CONDITIONS AND RESTRICTIONS

- A. The Contractor will need to move equipment and material to and from the Project Site. Access to the spillway is from an existing Reservation dirt walking trail named Quarry Road Path. Access to Quarry Road Path is from the South Border Road Parking Lot and as seen in the Contract Drawings.
- B. The Contractor shall provide traffic control including, but not limited to, temporary signage, barriers, and/or flagmen, as required to protect the public safety during the overall work of the project and specifically when vehicles are entering or leaving the site. Conform to all requirements of Commonwealth of Massachusetts, County, Town, or local laws and requirements for traffic control. Conformance with contract documents does not relieve the Contractor for responsibility for public safety. The Contractor is solely responsible for traffic control and for conformance with all traffic control regulations. While permanent police details are not anticipated, the Contractor shall determine the need for police details during periods of heavy construction traffic entering or leaving the site in consultation with the State Police, and City of Medford Police. An allowance for police details has been provided. The Contractor is responsible for all safety measures necessary to protect the public from construction traffic. This shall include, but not be limited to, enforcing strict speed limits on all construction traffic and informing all drivers of the utmost need for safety within the project area.
- C. Proper signage and additional barriers shall be provided and maintained to direct the public to and around any detours, to provide notice of restricted areas, to inform the public of possible hazards, to direct the Contractor's forces to proper access routes, staging areas, and parking areas, and to provide all other relevant instructions or notices consistent with the Work of this Section.
- D. At any location where equipment will be required to travel over existing curbing, the Contractor shall provide all materials and labor necessary to protect the curb and sidewalk from construction traffic. If the curb or sidewalk is damaged, they shall be replaced in kind at no additional expense to the Department.
- E. The Contractor shall be responsible to protecting existing park roads throughout construction. Damaged roadways shall be restored at no expense to the Department.

1.04 CONSTRUCTION PARKING CONTROL

- A. Contractor staging areas are designated on the Contract Drawings. These may be used for parking of construction equipment.
- B. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, DCR's operations, and public access.
- C. Upon completion of the project, restore any and all Contractor parking areas to pre-project conditions.

1.05 TEMPORARY BARRIERS, PROTECTION, AND TRAFFIC CONTROL

- A. The Contractor shall provide temporary chain link fencing or barriers to prevent unauthorized entry to construction, staging, and storage areas, to delineate temporary contractor staging areas, to delineate access from temporary staging areas to the work zones, and to protect the existing dam and appurtenances, adjacent properties and the public from damage from construction operations. Additional temporary chain link fencing or barriers may be required on the site, as determined by the DCR or Resident Engineer. The exact alignment of the temporary chain link fencing and barriers may be altered, with permission from the DCR, to accommodate the work and the Contractor's equipment. However, the purpose of the fencing and barriers must be maintained, and fencing may not extend beyond the limits of construction access.
- B. Traffic controls or signage on paved public roads shall conform to MassDOT Standard Specifications for Road and Bridge Construction. Flagmen and/or police details shall be provided as needed to maintain traffic on the road. The Contractor shall submit any plan, if deemed necessary, for traffic controls necessary on paved public roads to the DCR for approval a minimum of 10 days prior to the work. At a minimum, signs notifying the public of construction activities and/or trucks entering the roadway shall be placed at locations directed by the Department. See Section 01510 for additional project signage details.
- C. The Contractor shall provide protection for existing infrastructure, roadways, parking areas and existing utilities, and replace those damaged during construction at no additional cost.
- D. The Contractor shall protect non-owned vehicular traffic, stored materials, site and structures from damage and shall replace same if damaged during construction at no additional cost.
- E. Two signs shall be installed (one east of and one west of) the entrance South Border Road Parking Lot on South Border Road, warning motorists of "Construction Area Ahead – Trucks Entering and Exiting" or similar, as approved by the Department. Other signs shall be provided, as per the approved traffic control plan.

1.06 SITE ACCESS AND TRAFFIC COORDINATION

- A. Maintain existing roads accessing the site for existing public access rights-of-way, as well as the construction area. Provide for all necessary temporary traffic control including, but not limited to, temporary signage, barriers, flagmen, and/or police details. Extend and relocate traffic controls as Work progresses providing detours as necessary for unimpeded traffic flow
- B. At no time shall equipment or materials be operated or stored within public roadways. Should there be an occasion that traffic on nearby roadways has to be temporarily impacted due to ongoing work, the Contractor shall employ a police detail or flagman as appropriate and as allowed by the DCR.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. The Contractor is responsible for site area reconnaissance as necessary to determine if there are any local access, weight or size limitations with respect to specialized construction equipment to be used in the work.
- E. As part of the general site access and traffic control work, the Contractor shall make all necessary notifications to emergency and public services regarding work which might involve disruption to those services. Coordinate with such agencies and make accommodations as necessary.

1.07 PROTECTION OF EXISTING FEATURES AND WORK

- A. The Contractor shall protect vehicles, stored materials, site and structures from damage and shall replace same if damaged during construction at no additional cost.
- B. The Contractor shall provide all appropriate protection for existing site utilities, overhead, at grade, and subsurface. The Contractor shall be responsible for repairing or replacing any utilities damaged during construction at no additional cost to the Department.
- C. The Contractor shall be responsible for providing site security in accordance with Section 01500.

1.08 TREE PROTECTION AND PRUNING

- A. The Contractor shall exercise caution while working near existing trees not to be removed as part of the work. Protection of existing trees is required for this Contract and any trees damaged by the Contractor shall be replaced in kind at the Contractor's expense.

1.09 TEMPORARY SITE ACCESS

- A. As part of the general site access control work, the Contractor shall be prepared to provide working platforms, scaffolding, ladders, ramps, cribbing, shoring, matting, and all other specialized support equipment required to ensure safe access of all personnel, equipment, and materials necessary for completion of the work of this Contract in accordance with the Specifications and Drawings.
- B. The Contractor shall specify intended methods for accessing each location for demolition, removal and construction along the existing weir and spillway structure and rehabilitation work along each headwall as indicated on the Contract Drawings.
- C. All working platforms, scaffolding, ladders, ramps, cribbing, shoring, matting and any other specialized support equipment required for safe temporary site access shall be in compliance with the most up-to-date Occupational Safety and Health Administration (OSHA) regulations.

1.10 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other sections of these specifications as indicated:
 - 1. Regulatory Requirements – See Section 01060;
 - 2. Temporary Facilities and Controls – See Section 01500.

1.11 SUBMITTALS

- A. Not less than ten (10) days prior to the scheduled start of work, the Contractor shall submit his proposed plan for temporary access, vehicular and pedestrian traffic control. The submittal shall include at a minimum the following items:
 - 1. Schedule for posting signs and other traffic controls for various phases of the project.
 - 2. General plan for accessing site and controlling traffic.
 - 3. Products to be used as signs and barriers.
 - 4. Content and configuration of signs.
 - 5. Means and content of public notification

6. Layout and location of signs and barriers.
7. Parking plan.
8. Layout of access controls and pedestrian detours.
9. Approvals from local authorities (if needed).
10. Newspaper ad text (in local paper) and copy of printed ad (if needed).

PART 2. PRODUCTS

2.01 TEMPORARY CHAIN LINK FENCING

- A. Temporary Chain Link fencing shall include galvanized wire mesh fabric with a maximum opening size of 2.5 inches and a minimum wire gauge of 12. The minimum height of the fence shall be 6 feet. All posts shall be galvanized steel or equivalent. Vertical support posts and top and bottom rails shall be provided. All hardware shall be provided. Vertical posts shall be equipped with stabilizing stands. The fence shall be stable in winds up to 40 mph, including effect of any attached fabric sheeting. The fence may be provided with geotextile or other solid fabric covering along the entire height and length to provide a visual barrier if directed by the Department or the Resident Engineer. The solid fabric shall be wired to the chain link fence. Such fencing shall be a minimum of eight feet high.

2.02 TRAFFIC CONTROL MATERIALS

- A. All products used shall be in conformance with the latest addition of the “Manual on Uniform Traffic Control Devices” and/or as specified under the Materials sub-section of Section 850 – “Traffic Controls for Construction and Maintenance Operations” in the Massachusetts Highway Department 1995 Standard Specifications for Highways and Bridges.
- B. Temporary Traffic Control devices must be “like new” and in first class condition and acceptable to the Resident Engineer. Temporary Traffic Control devices not up to standards shall be removed from the site and replaced with acceptable products.
- C. In the event that traffic controls are needed after dark, appropriate lighted and/or reflective barriers, flashers, signals, etc. shall be provided.

2.03 SIGNAGE

- A. Temporary traffic control signs on public ways and in parking lots shall conform to the requirements of the latest addition of the “Manual on Uniform Traffic Control Devices” and/or as specified under the Materials sub-section of Section 850 – “Traffic Controls for Construction and Maintenance Operations” in the Massachusetts Highway Department 1995 Standard Specifications for Highways and Bridges.
- B. Other temporary access and traffic control signage shall be commercially printed, all-weather signs on stiff backing. Where appropriate signs shall conform to OSHA guidelines. In general, signs shall be a minimum of 4 square feet in area and shall utilized colors which are highly visible.
- C. All signage shall be firmly affixed to wooden or metal posts at an appropriate height. Signs may not be affixed to trees in a manner which will result in permanent damage.

2.04 LOCKS AND KEYS

- A. The Contractor shall provide the Department's Resident Engineer with up to five sets of keys, each, for any locks installed at the site, excepting the Contractor's own trailer (if used).

PART 3. EXECUTION

3.01 GENERAL TEMPORARY TRAFFIC AND ACCESS CONTROL

- A. The Contractor shall be responsible for preparing and executing a Temporary Traffic Control Plan for the work site, access roads, parking lots, and pedestrian and vehicular traffic onto the site in accordance with the needs of his schedule and work plan. The plan shall be approved by the Department and all relevant local authorities, as necessary. The Contractor is responsible for all necessary interaction, consultation, and coordination.
- B. The Contractor shall be responsible to extend and relocate access and traffic controls, as necessary, as Work progresses, including, but not limited to removing or changing signage and barriers at the beginning and end of each work day, as required by the Plan. The Contractor shall also maintain existing roads, driveways, and paths accessing the site as well as the construction area.
- C. The Contractor shall be responsible for all work and materials, including temporary fill, steel road plates, etc., required to protect roadways, curb, parking lots, sidewalks, overhead utilities, and buried underground structures beneath. All protection measures shall be at the Contractor's sole expense.
- D. The Contractor shall provide appropriate safety equipment and training to all personnel assisting with Traffic Control.
- E. The Contractor shall inspect and maintain the signage at the site including signage informing pedestrians of appropriate routes around the site and of areas of no access. Inspections shall take place at minimum on every Friday, or as directed by the Department.
- F. Once construction has begun, the Contractor shall take all reasonable steps to exclude the public from the construction and staging areas, including fences, barriers, signs, etc. The Contractor shall insure that barriers are inspected and in-place each night and over weekends so that access to the site is restricted during non-work hours.
- G. The Contractor shall take such steps as are necessary to prevent the spilling of materials and liquids onto the paved surface of public roads and parking lots. The Contractor shall be responsible for such actions as are necessary, including cleaning, sweeping, etc. as directed by the Department or Resident Engineer, to keep these surfaces clean. Do NOT wash soil, sediment, or other material into surface water bodies, ditches, or storm drains.
- H. Upon completion of the work, the Contractor shall remove all items associated with the Temporary Traffic Control Plan and restore any disturbed areas.

3.02 POLICE DETAILS

- A. The Contractor shall provide such police officers (State, local, or DCR Rangers), as may be deemed necessary, by the Resident Engineer or by the Department, for the direction and control of traffic entering, passing through, and leaving the site of the work. Such officers shall wear regulation policemen's uniforms and may be reserve or special officers not subject to the control and not paid directly by the Contractor. Compensation for the services for such regular police officers shall be paid by the Contractor to their employers. Reserve and special police officers shall be paid by the Contractor at the prevailing rates of wages paid to regular police officers in the city or municipality in which the work is being performed. Only the Massachusetts State Police or DCR Rangers shall be employed on property under the care of the DCR, unless otherwise approved. If State forces are unavailable then the Contractor may contact local authorities. On property not controlled by the DCR, the Contractor shall use local police.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No Measurement for payment of General Temporary Traffic and Access Controls shall be made. The bid item for General Temporary Traffic and Access Controls shall be a lump sum quantity encompassing all such work.
- B. Measurement of Temporary Chain Link Fencing shall be on a basis of the actual, in-place length of acceptable, functional Temporary Chain Link Fencing, in Linear Feet. Measurement shall be made by taping the length, or by other methods mutually acceptable to the Department and the Contractor. No measurement of fencing not approved by the Department or Resident Engineer shall be made.
- C. No measurement for payment of all other general access and traffic control measures shall be made.
- D. No measurement for payment of Police Detail work shall be made. The bid item for Police Detail work shall be in the form of an allowance as shown on the Form for Bid.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove General Temporary Traffic and Access Controls shall be paid for at the applicable lump sum price for Item No. 01570.01 stated on the Form for Bid. No additional payment shall be made for gates, which shall be measured as if they were standard fencing. Payment for this item shall be on the basis of 50 percent of the lump sum bid price payable after initial deployment of General Temporary Traffic and Access Controls and 50 percent at the end of the project, whereupon the balance will be paid.
- B. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove Temporary Chain Link Fencing shall be paid for at the applicable unit price for Item No. 01570.02 stated on the Form for Bid.

- C. The Contractor shall include in his bid an allowance of Five Thousand dollars (\$5,000) for furnishing of Police Detail services, as needed. The Contractor must submit certified copies of itemized bills of services rendered for review and approval by the Engineer. This allowance will be adjusted to the actual amount paid for authorized and approved services. Billings against this allowance shall be applied under Item No. 01570.03 – Police Detail.

The services to be paid for under this Item shall be the actual amount paid by the Contractor to provide satisfactory Police Detail services as stipulated above, inclusive. Any allowance for overhead shall be considered to have been included for payment in the prices stipulated in the numbered items of the Proposal.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01570.01	General Temporary Traffic and Access Controls	Lump Sum
01570.02	Temporary Chain Link Fencing	Linear Foot
01570.03	Police Details Allowance	

END OF SECTION

SECTION 01740

SITE RESTORATION

PART 1. GENERAL

1.01 SCOPE

- A. The work under this Section shall consist of all work and operations, including, but not limited to equipment, supplies, material, personnel, and incidentals to restore areas in and around the project site to pre-construction conditions. The work shall include any reconnection of relocated overhead utility lines.
- B. The intent of the Work of this Section is that areas which are disturbed as a result of the overall Work of this Contract, whether intentionally or unintentionally, planned or unplanned, are restored to at or better than their conditions prior to the start of work. The Scope of Work under this Section shall also include both significant and incidental work necessary to repair damage to the site beyond those areas shown as disturbed on the Project Plans. Areas to be restored shall include, but not be limited to, locations of trailers, laydown areas, construction access roads, etc.
- C. It is the intent of the Contract that the Contractor avoids and minimizes indirect construction impact to the maximum extent possible. To this end, the site and surrounding areas should be protected, as needed and as provided for under separate Sections of the Contract. The Contractor should also develop a plan to protect the site and inform and educate his forces regarding protective measures to be implemented. This Section covers the restoration of damage caused by unavoidable or inadvertent actions by the Contractor's forces, including all sub-contractors, material deliverers, and others under the Contractor's employ or authority. It is the intent of the Contract that the work of this Section be minimized to the extent possible by the Contractor's actions to avoid damage to the site and area.

1.02 DOCUMENTATION OF EXISTING CONDITIONS

Prior to the start of work, the Contractor shall be responsible for documenting the pre-construction conditions of those areas which might be disturbed by the Work of the Contract, including, but not limited to, the vegetated areas along the left and right abutments of the dam, the access paths leading to the left and right abutments, the parking lot adjacent to the right abutment, etc. This documentation, in the form of photographs, video tapes, and written documentation shall be provided to the Department and/or Resident Engineer. This documentation shall be used to determine the extent to which post-construction site restoration shall be needed.

1.03 PROTECTION OF EXISTING FEATURES

The Contractor shall take such steps and measures as are necessary to protect the project site and adjacent areas from damage by construction activities and thereby minimize the extent of work to be done under this Section. Site protection shall be paid for under the Scope of other Sections.

1.04 SUBMITTALS

- A. The Contractor shall submit a pre-construction site documentation package to the Department and/or Resident Engineer.
- B. The Contractor shall submit information, as needed, on site restoration methods and materials to be used in restoring site conditions.

1.05 RELATED SECTIONS

- A. Section 01500 – Temporary Facilities and Controls
- B. Section 01510 – Temporary Project Sign and Public Information
- C. Section 01560 – Temporary Sediment and Erosion Control
- D. Section 02930 – Loaming, Seeding and Vegetation

PART 2. PRODUCTS

Products used in Site Restoration shall meet the requirements of the applicable Section of the Contract Documents. If work similar to the nature of the necessary site restoration is not specified elsewhere in the Contract Documents, the applicable section of the Commonwealth of Massachusetts, Massachusetts Highway Department Standard Specifications for Highways and Bridges, shall control. Materials for restoration of utilities shall meet with the standards of the Department or the utility to be restored.

PART 3. EXECUTION

3.01 GENERAL

The work required and services for site restoration shall be done in a safe workmanlike manner and shall conform to any pertinent local or state law, regulation or code. Good housekeeping consistent with safety shall be maintained. The Contractor shall be responsible for all necessary permits and approvals.

3.02 PRE-CONSTRUCTION SITE DOCUMENTATION

Prior to the start of work at the site, the Contractor shall coordinate with the Department and its Resident Engineer to perform a pre-construction site walk for the purposes of documenting conditions prior to disturbance by the Contractor's forces and equipment. A representative from the Department and/or its Resident Engineer may accompany the Contractor during the site walk, but it shall be the Contractor's sole responsibility to properly document existing conditions in all areas which might be subject to disturbance. The Contractor shall utilize photographs, video, written descriptions, sketches, and any other means to document pre-construction conditions. The Contractor shall supply the Owner with one copy each of the documentation, including both hard copies and digital files, as appropriate as the Pre-Construction Documentation Package. The Department alone shall be empowered to make decisions about the pre-construction condition of areas not covered by the Contractor's documentation.

3.03 RESTORATION METHODOLOGY

Means of Site Restoration shall meet the requirements of the applicable Section of the Contract Documents. If work similar to the nature of the necessary site restoration is not specified elsewhere in the Contract Documents, the applicable section of the Commonwealth of Massachusetts, Massachusetts Highway Department Standard Specifications for Highways and Bridges, shall control. Proper sediment, erosion, and water control shall be provided, as needed, at no additional cost.

3.04 RESTORATION OF ACCESS PATHS

- A. The Contractor shall be required to repair any damage to access paths caused during the course of construction, in order to return the roads to pre-construction condition or better.
- B. The Department shall determine the appropriateness of proposed restorations.

3.05 RESTORATION OF VEGETATED AREAS

- A. The Contractor shall be responsible for restoring all disturbed vegetated areas within and beyond the indicated limits of work of this Contract. Restoration shall include, but not be limited to, loam placement, regrading, seeding, re-sodding, mulching, and maintenance. The intent is to restore damaged areas to pre-construction condition or better. Loaming, seeding, and revegetation of areas which are shown on the plans as being filled, excavated, or graded shall be paid for under a separate Section of the Contract. Loaming, seeding, and revegetation of other areas, including areas disturbed by construction traffic, trailer placement, material stockpiling, etc. shall be paid for under Section 02930 – Loaming, Seeding and Vegetation.
- B. The Contractor shall be responsible for maintenance and care of all restored vegetated areas until establishment.

3.06 TREES

- A. The Contractor shall be responsible for pruning and other actions necessary to repair construction-related damage to trees which are outside of the construction areas.
- B. The Contractor shall consult with the Owner or Resident Engineer if restoration work on large trees is necessary.
- C. The Contractor shall hire a certified arborist to perform restoration work on large trees, if judged necessary by the Owner or Resident Engineer.

PART 4. MEASUREMENT AND PAYMENT

No measurement shall be made of any work performed under this section. No separate payment shall be made for any work performed under this section. The cost of any work done or facilities provided under this section shall be included under other bid items within the Contract.

END OF SECTION

SECTION 01900
MOBILIZATION/DEMobilIZATION

PART 1. GENERAL

1.01 SCOPE

- A. The work under this Section shall consist of the Contractor's preparatory work and operations, including, but not limited to transporting equipment, materials, supplies, personnel and incidentals to and from the work site, and all other operations which must be performed or for costs which must be incurred prior to commencement of the work and for the satisfactory completion of all Work.

Work under this Section shall also include all work, services, equipment materials, supplies, personnel, and other incidental items, whether specifically mentioned herein or not, to perform similar tasks at the work site at the conclusion of the work, in order to restore the site to its intended condition and remove all items which are not a permanent part of the work from the site, and to leave the site in a clean and orderly manner as directed by the Resident Engineer.

- B. The Work of this Section shall include all work, services, equipment materials, supplies, personnel, and other incidental items necessary for the adequate and appropriate documentation of the existing structures and facilities at the site and the condition of said structures and facilities prior to the start of Construction at the site. This Work is intended to establish and document site conditions and provide a basis for restoration requirements.
- C. The Work of this Section shall include the provision, installation, inspection, maintenance, and removal of all temporary facilities and controls necessary for the Contractor to successfully complete the Work of this Contract in accordance with the Plans, Specifications, Permits, and all applicable local, state, and Federal laws and regulations. Temporary facilities shall include all work, services, equipment materials, supplies, personnel, and other incidental items necessary for the protection of existing structures and features at the site.
- D. The Work of this Section shall include all work and operations, including, but not limited to equipment, supplies, material, personnel, and incidentals for site preparation as well as the dismantling, relocation, demolition, removal, and lawful off-site disposal of incidental existing materials and structures at the work site.
- E. The Work of this Section shall include all work and operations, including, but not limited to equipment, supplies, material, personnel, and incidentals to restore disturbed areas in and around the project site to pre-construction conditions.
- F. The Work of this Section shall include the ongoing preparation and submission of As-Built Drawings by the Contractor to record progress and changes at the project site. The As-Built Drawings shall be continuously updated by the Contractor's on-site superintendent.
- G. The work of this Section shall also include any potential work, labor, equipment, materials, labor, and other expenses necessary for emergency protection of, demobilization from, and remobilization to the project site in the event of heavy rains, increased flows, and/or high water levels which cause the inundation of the job site or other weather-related conditions which temporarily restrict access to the work area.

- H. The work of this Section shall also include the provision by the Contractor of all insurance, bonds, and other guarantees required by the Contract or the Work.

1.02 EXISTING CONDITIONS

The Bellevue Pond Dam impounds Bellevue Pond and discharges to Floyds Brook. The dam lies within the Middlesex Fells Reservation in the City of Medford, Massachusetts. **The Work of the Contract will involve temporary surface and ground water control measures installed by Contractor to protect the Work.** Appropriate water safety precautions shall be provided by the Contractor as per OSHA regulations as needed for work in and around the water.

The allowable staging areas are located within the upland area adjacent to the spillway and at the junction of the gravel walking path and hiking trail immediately south of the proposed improvements northeast of the dam. Refer to Drawings 7, 8 and 10 of the Contract Drawings for the location of the allowable contractor staging areas. The Contractor shall be responsible for marking and maintaining all existing structures and utilities within the staging area and the work area before, during and after the course of work. **Contractor responsibilities shall include notifying Dig Safe and all appropriate Town departments prior to commencing work.**

Access into the project area is via the South Border Road Parking Lot onto the Reservation dirt walking trail named Quarry Road Path. Further instruction about the protection of existing structures during site access is discussed in Section 01500 Temporary Facilities and Controls, and Section 01570, Temporary Access and Traffic Control.

The Contractor shall be prepared to provide working platforms/ramps, cribbing, shoring, matting, and all other **specialized** support equipment required to ensure safe access of all personnel, equipment and materials necessary for completion of the work of this Contract in accordance with the Specifications and Drawings.

1.03 SCHEDULE AND SEQUENCE

- A. The proposed project will begin in the fall of 2026, with Notice to Proceed expected on or after November 1, 2026. The project must be completed and the site restored by November 1, 2027. Extra efforts and multiple simultaneous operations may be needed to accomplish this schedule.

1.04 RELATED SECTIONS

Section 01500 – Temporary Facilities

Section 01570 – Temporary Access and Traffic Controls

Section 02065 – Dismantling, Demolition, Removal, and Reconstruction of Existing Structures.

1.05 DOCUMENTATION OF EXISTING CONDITIONS

Primary access into the project area is off of South Border Road and the Reservation dirt walking trails Quarry Road Path. The area in and around the project area includes wetland resources which are sensitive to disturbance.

Prior to the start of work, the Contractor shall be responsible for documenting the pre-construction conditions of those areas which might be disturbed by the Work of the Contract, including, but not limited to, the roads, sidewalks, parking areas, staging areas, utilities, existing structures, signage, etc. Documentation will be referenced to establish the need for and extent of post-construction restoration effort.

This documentation, in the form of 1) photographs, 2) video tapes, 3) written documentation, and 4) plans and diagrams shall be provided to the Department. This documentation shall be used to determine the extent to which post-construction site restoration shall be needed.

1.06 TEMPORARY FACILITIES AND CONTROLS

- A. All temporary facilities, controls, and utilities required to be provided by the Contractor as specified herein shall be furnished by him and shall meet all federal, state and local codes and requirements for such temporary installations. All temporary facilities shall be provided and maintained so as not to create fire or safety hazards. Costs necessary to satisfy all requirements specified herein shall be borne by the Contractor. All temporary facilities shall be entirely removed upon completion of the work and the site shall be left in a clean condition to the satisfaction of the Department.
- B. The Contractor shall provide the Resident Engineer and representatives of the Department, including its Consultants, with access to and use of all temporary facilities and services provided by the Contractor.
- C. The Contractor shall take such steps and measures as are necessary to protect the project site and adjacent areas from damage by construction activities and thereby minimize the extent of work to be done under this Section. Site protection work shall account for the following issues, among others:
 - 1. The Contractor shall also be responsible for protecting existing structures which are not a part of this Contract.
 - 2. The Contractor is also informed that the disturbance of trees beyond the project boundaries or those trees within the project boundaries which have not been designated for removal is prohibited.

1.07 SITE PREPARATION

- A. General site preparation under Mobilization / Demobilization shall include, but not be limited to, general dismantling, relocation, demolition, removal, and/or lawful off-site disposal of incidental items which might be present at the site, are not identified for protection, and might interfere with the Work. Consult with the Resident Engineer prior to removing any existing feature or structure. Store and replace such existing features as designated by the Resident Engineer.
- B. Limitations on access to the site, including acceptable routes for construction traffic and parking areas are discussed under Section 01570 – Temporary Access and Traffic Controls and shown in the Contract Drawings.

1.08 SITE RESTORATION

- A. The intent of the Work of this Section is that areas which are disturbed as a result of the overall Work of this Contract, whether intentionally or unintentionally, planned or unplanned, are restored to at or better than their conditions prior to the start of work. The Scope of Work under this Section shall also include both significant and incidental work necessary to repair damage to the site beyond those areas shown as disturbed on the Construction Drawings. Areas to be restored shall include, but not be limited to, locations of trailers, laydown areas, construction access roads, etc. Facilities to be restored include, but are not be limited to, paving, grassed areas, trees, and utilities, and any other property disturbed during Work activities.
- B. It is the intent of the Contract that the Contractor avoid and minimize indirect construction impacts to the maximum extent possible. To this end, the site and surrounding areas should be protected, as needed and as provided for under separate Sections of the Contract. The Contractor should

also develop a plan to protect the site and inform and educate his forces regarding protective measures to be implemented. This Section covers the restoration of damage caused by the Contractor's forces, including all sub-contractors, material deliverers, and others under the Contractor's employ or authority. It is the intent of the Contract that the work of this Section be minimized to the extent possible by the Contractor's actions to avoid damage to the site and area.

- C. Site restoration shall include all areas where work occurred and/or Contractor's forces had access.

1.09 AS-BUILT DRAWINGS

- A. The Contractor shall keep at the site a set of As-Built Drawings on which he/she shall clearly and accurately record all approved changes and/or additions to the contract work made to meet field conditions or ordered by DCR. The Contractor shall also record information on sub-surface conditions encountered at the site on the record set. The As-Built drawings shall accurately record all critical elevations, including but not limited to spillway crests and channel inverts, and critical dimensions. The set of Drawings shall be used for this purpose only and shall be delivered to DCR in good condition (electronic plan view files, stamped plan views, and marked details) at the completion of the Work. Before final payment shall be due and payable, the Contractor shall incorporate all construction information on a final "as-built" plan set. This plan shall be submitted in three formats one hard copy and two electronic formats, PDF and AutoCAD. The PDF shall contain the Contractor's professional engineer's stamp.

1.10 BONDS AND INSURANCE

- A. All general bonds and insurance required by the Contract shall be provided by the Contractor under the Mobilization / Demobilization item, except as specifically noted elsewhere.

1.11 DEMOBILIZATION / REMOBILIZATION DUE TO INCLEMENT WEATHER

The Contractor is hereby notified that the Work of this Contract will take place in, on, and around Bellevue Pond Dam and Bellevue Pond within Middlesex Fells Reservation. Portions of this Work will require personnel and equipment to be located on or adjacent to the Pond, Dam, and in or near other areas typically subject to water flow. Portions of this work will require surface water and groundwater control efforts. Certain weather conditions (such as an extended period of heavy rainfall and/or a weather event such as a hurricane) could cause a significant rise in the level of the impoundment and downstream waterbodies and potentially inhibit proposed work.

The Contractor is hereby notified that responses to such events are the Contractor's responsibility and no extra payment shall be made. The Contractor shall make provision for contingencies to deal with inclement weather, the cost of which shall be incidental to other pay items. In the event of rising waters and increasing flow, the Contractor may be required to act rapidly to protect the structures and the work, including removal of personnel and equipment from potentially affected areas and temporary placement of fill material to prevent overtopping of the embankment. The Contractor may have to demobilize from the potentially affected areas on a temporary basis. Prior to leaving the area, the Contractor shall take such steps as are necessary to protect completed work and work in progress and to remove all equipment and materials from potentially inundated areas. The Contractor shall be responsible for any loss or damage to his work, equipment, or material. **After water levels/flows have receded, the Contractor shall remobilize to the site at no additional cost.** Remobilization will include all effort required to restart the Work.

To reduce the chance of high water levels / flows affecting the Work, the Contractor is urged to pay particular attention to weather forecasts for the area, to schedule work in vulnerable areas for periods which are anticipated to be relatively dry.

1.12 SUBMITTALS

- A. No later than ten (10) days prior to bringing the facilities on site, the Contractor shall develop and submit a submittal which describes the temporary facilities and services to be used by the Contractor, including the location of any proposed temporary office trailer.
- B. No later than ten (10) days prior to bringing the facilities on site, the Contractor shall develop and submit a submittal which describes the plan, procedure, and date for the documenting of existing conditions.
- C. Within ten (10) working days of completing the existing conditions documentation field work, the Contractor shall submit two copies of the full existing conditions documentation package, including drawings of the facilities to be reconstructed.
- D. The Contractor shall submit information, as needed, on site preparation and site restoration methods. Information regarding materials to be used in restoring site conditions shall be submitted as needed.

PART 2. PRODUCTS

Not Used

PART 3. EXECUTION

3.01 GENERAL

- A. The work required and services for all work conducted as a part of mobilization/demobilization shall be done in a safe workmanlike manner and shall conform to any pertinent local or state law, regulation or code. Good housekeeping consistent with safety shall be maintained. The Contractor shall be responsible for all necessary permits and approvals.
- B. The Contractor shall sweep and clean as necessary to maintain neat, orderly work areas.
- C. The Contractor shall furnish all materials and perform all work necessary, including excavation and backfill. No disturbance will be allowed outside areas indicated on the plans. The Contractor will be responsible for repairing all cuts made for temporary utilities and for the removal of temporary utilities and post-removal restoration.

3.02 PRE-CONSTRUCTION SITE DOCUMENTATION

- A. Prior to the start of work at the site, the Contractor shall coordinate with the Department and its Resident Engineer to perform a pre-construction site walk for the purposes of documenting conditions prior to disturbance by the Contractor's forces and equipment. A representative from the Department and/or its Resident Engineer shall accompany the Contractor during the site walk, but it shall be the Contractor's sole responsibility to properly document existing conditions in all areas which might be subject to disturbance. The Contractor shall utilize photographs, video, written descriptions, sketches, drawings and any other means to document pre-construction conditions. The Contractor shall supply the Department with two copies each of the documentation, including both hard copies and digital files, as appropriate. The Department alone shall be empowered to make decisions about the pre-construction condition of areas not covered by the Contractor's documentation.

3.03 SITE PREPARATION

- A. Site preparation under the Work of this Section includes all activities necessary to prepare the general work area for the proposed construction activities. This work includes but is not limited to moving, dismantling, demolishing, removing, and lawfully disposing of miscellaneous features on the site. The work also includes stabilizing the site, securing and protecting utilities, and any other work necessary to provide a safe and appropriate work environment.
- B. The Contractor shall be responsible for all permits required for site preparation and shall be responsible for all coordination with the Department and outside entities.

3.04 SITE RESTORATION

A. Restoration Methodology

- 1. Means of Site Restoration shall meet the requirements of the applicable Section of the Contract Documents. If work similar to the nature of the necessary site restoration is not specified elsewhere in the Contract Documents, the applicable section of the Commonwealth of Massachusetts, Massachusetts Highway Department Standard Specifications for Highways and Bridges, shall control. Proper sediment, erosion, and water control shall be provided, as needed, at no additional cost.

B. Restoration of Roads

- 1. The Contractor shall be required to repair any damage to public or private roadways caused during the course of construction, in order to return the roads to pre-construction condition or better.
- 2. Restoration of paved areas shall be done with similar materials and paving characteristics. Work shall be done to DCR Standards.
- 3. The Department shall determine the appropriateness of proposed restorations (e.g. spot patching, full depth repaving, etc.)
- 4. All repaving, except for resurfacing of the parking area and access road, shall be paid for under the General Work of this Section.

C. Restoration of Park Gravel Roads

- 1. The Contractor shall be required to repair any damage to the gravel roads within the park caused during the course of construction, in order to return the roads to pre-construction condition or better.
- 2. Restoration of may involve filling ruts with gravel and grading. Work shall be done to DCR Standards.
- 3. The Department shall determine the appropriateness of proposed restorations.
- 4. All repairs to the existing park gravel roads, shall be paid for under the General Work of this Section.

D. Restoration of Vegetated Areas

1. The Contractor shall be responsible for restoring all vegetated areas beyond the indicated limits of work disturbed during the work of this Contract. Restoration shall include, but not be limited to, loam placement, regrading, seeding, re-sodding, mulching, and maintenance. The intent is to restore damaged areas to pre-construction condition or better. Loaming, seeding, and revegetation of areas which are shown on the plans as being filled, excavated, or graded shall be paid for under a separate Section of the Contract. Loaming, seeding, and revegetation of other areas, including areas disturbed by construction traffic, trailer placement, material stockpiling, etc. shall be paid for under the pay item for this Section.
2. Revegetation of disturbed private property shall be as directed by the property owner using approved materials.
3. The Contractor shall be responsible for maintenance and care of all restored vegetated areas until establishment and acceptance by the respective property owner.

E. Trees

1. The Contractor shall be responsible for pruning and other actions necessary to repair construction-related damage to trees which are shown to remain in place or are outside of the construction areas.
2. The Contractor shall consult with DCR's forester if restoration work on large trees is necessary.
3. The Contractor shall hire a certified arborist to perform restoration work on large trees, if judged necessary by the Department.
4. Tree protection shall be as per and paid for under Section 01570 – Temporary Access and Traffic Controls.

3.05 AS-BUILT DRAWINGS

- A. The Contractor shall update the As-Built Drawings set as work progresses. Updates shall be executed by the Contractor's site superintendent.
- B. The Contractor shall bring updated As-Built drawings to each site meeting.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No measurement shall be made for general mobilization/demobilization. The bid item for general mobilization/demobilization is lump sum.
- B. No payment shall be made for any necessary temporary Demobilization and Remobilization as stated above or for demobilization and remobilization due to inclement weather.**

4.02 PAYMENT

- A. All Work performed under this Section shall be included in the lump sum price bid for Mobilization and Demobilization.
- B. Payment for Mobilization and Demobilization costs associated with the Work of the contract will be paid for based on the Lump Sum price stated for Item No. 01900.1 on the Form for Bid. Mobilization/demobilization costs for all work under the Contract not specifically addressed on the Form for Bid shall be considered incidental, and the costs for such shall be included as part of the work of that Section (and included in the respective Form for Bid Lump Sum price items) and/or as part of the work of this Contract.
- C. **The total bid price for Mobilization/Demobilization shall not exceed ten percent (10%) of the total contract bid price.**
- D. Partial payments for Mobilization/Demobilization shall be provided as follows: Eighty percent (80%) of lump sum bid price upon completion of mobilization. Following the satisfactory completion of work, fifteen percent (15%) of lump sum bid price will be paid upon completion of demobilization. The final five percent (5%) of the lump sum amount shall be payable upon the submission and acceptance of adequate As-Built Drawings.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
01900.01	Mobilization and Demobilization	Lump Sum

END OF SECTION

**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

DIVISION 2 – SITE WORK

SECTION 02065

DISMANTLING AND DEMOLITION / REMOVAL OF EXISTING STRUCTURES

PART 1 GENERAL

1.01 DESCRIPTION

- A. This Section describes the general parameters and requirements for as the dismantling, relocation, demolition, removal, and lawful off-site disposal of certain existing materials and structures at the Work Site.
- B. The Work of this Section shall include the demolition and legal off-site disposal of existing structures which are intended to be removed as part of the Work of the Contract.
- C. The Work of this Section shall include temporary removal, handling, and storage of existing structures which may be re-constructed at the same location or elsewhere as part of the final project configuration.
- D. The Work of this Section shall include the removal, handling, and storage of existing material which may be reused at the site as part of the final project configuration. This shall include items as directed by the Department.
- E. The Contractor shall obtain all necessary permits, including local, state, and federal permits, coordinate all required inspections with appropriate agencies, and conduct all work in accordance with all local, state, and federal rules, regulations, and guidance.
- F. If necessary, the scope of this item shall also include all work, materials, labor, and other costs associated with the design, installation, and removal of any temporary earth support systems, rigging systems, containment systems, or other means and methods required during dismantling, demolition, and/or removal of existing structures.

1.02 SCOPE OF WORK

- A. The general scope of work shall be to prepare the Bellevue Pond Dam site for the dam rehabilitation project by removing the spillway weir, spillway floor, and other potential structures and materials. Certain identified structures shall be demolished and removed, while others will be removed and their materials salvaged for later reuse. Refer to the Contract Drawings for the locations of structures to be demolished and removed and/or reused. The scope of this work has been separated into multiple pay items, as shown below:
 - 1. Demolition and Disposal of Stone Masonry Weir: This Pay item includes demolition and disposal and/or recycling of the stone masonry weir as shown on the Contract Drawings. This Pay item also includes all costs related to transporting the demolished stones removed from the project site to a lawful disposal/recycling facility.
 - 2. Demolition and Disposal of Concrete Spillway Base (Floor): This Pay item includes demolition and disposal and/or recycling of the concrete spillway base as shown on the Contract Drawings. This Pay item also includes all costs related to transporting the demolished concrete removed from the project site to a lawful disposal/recycling facility.

1.03 GENERAL

- A. Demolition work shall be performed in accordance with all applicable local, state, and Federal regulations. Based on current information, no hazardous materials are anticipated within structures to be demolished or dismantled.
- B. The removal and disposal of all miscellaneous debris found at the job site, including timber, trash, wood chips, mulch, and other materials, above and below grade shall be considered incidental to the other pay items in this or other Sections of the Work. Useable materials specifically requested to be salvaged by the Department shall be relocated within the staging area or elsewhere on site by the Contractor, as requested by the Department. All other material becomes property of the Contractor and must be lawfully disposed of off-site.
- C. Excavation in support of demolition to lines and grades shown on plans shall be included in the Unit Costs provided for this section on the Form for Bid.

1.04 EXISTING CONDITIONS

- A. The existing semi-circular stone masonry spillway is approximately 80-feet-long and 2-feet-wide at the crest. The weir has a batter on the downstream side that ranges from approximately 3V:1H to 6V:1H and is generally steeper in the middle. The height of the weir above ground surface on the upstream side ranges from a few inches near the left and right ends and approaches to about 18 inches at the stop log supports. The exposed height of the weir on the downstream side ranges from 2.5 to 3 feet. The height of the low segment (stoplog openings) of the weir is approximately 18 inches plus a shallow groove at the base to support stoplogs. The low segment opening of the weir is 3-feet-long, with 2 inch stop log grooves recessed on both ends. The geometry of the buried portion of the weir is unknown.
- B. The existing concrete spillway base is approximately 670 square feet. The concrete spillway base is below up to an approximate 1-foot-thick layer of sediment in localized areas of the stilling basin. In the middle of the stilling basin where water flows there was no sediment and a weak concrete, possibly "slush grout", was exposed. Based on two hand-excavated test pits, GZA believes the concrete spillway base is a 2 to 3 inch layer of weak concrete layer over a 10-inch thick layer of rip rap, approximately 4 to 8-inch nominal diameter.

1.05 DESIGN CRITERIA

- A. All excavations shall be performed in accordance with OSHA requirements. If support structures are used by the Contractor to support the sides of excavations, the selection, design, and installation of the support system(s) shall be the responsibility of the Contractor.
- B. Debris resulting from demolition activities shall be segregated and recycled to the greatest extent possible. Salvage value accrues to the Contractor, except in cases where material is specifically reserved by the Department. Material that the Department does not specify becomes property of the Contractor.
- C. Material salvaged for the Department or for later replacement/restoration at the site by the Contractor shall be handled with care so as to not damage the material, to the extent possible. Material salvaged for use by the Department shall be transported and placed in a storage location on-site, as designated by the Resident Engineer, at no additional cost to the Department. Material salvaged for later restoration / reconstruction at the site shall be transported and placed in a storage location on-site or elsewhere, as selected by the Contractor, at no additional cost to the Department.

1.06 PROJECT CONDITIONS

- A. Explosives: Blasting and use of explosives is not permitted.
- B. Burning: Burning on site is not permitted.
- C. Protection: The Contractor shall prevent injury to persons and damage to abutting property. The Contractor shall further provide adequate shoring and bracing to prevent uncontrolled collapse and immediately repair damaged property to its condition before being damaged.
- D. The Contractor shall carefully examine all of the Contract Documents and Contractor Drawings for requirements that affect the work of this Section. Certain construction, systems, or equipment identified in the Contract Documents or by the Department of Conservation and Recreation in the field shall remain in-place for future service and shall be protected.
- E. The Contractor shall not allow debris to be carried into the downstream channel, impoundment, or any portion of the Brook.
- F. The Contractor shall immediately repair, to the satisfaction of the Resident Engineer, any damage directly and indirectly caused by the Contractor's operations at no cost to the Commonwealth.
- G. The Contractor shall remove and legally dispose of all clearing of debris, demolition debris, and solid waste from the Site. No on-site disposal of stumps shall be allowed. On-site recycling or reuse of demolition debris, including brick, concrete, and asphalt, is not allowed, except where specifically authorized by the Specifications or by the Resident Engineer.

1.07 RELATED WORK SPECIFIED ELSEWHERE

- A. The following is a list of related work items that shall be performed or furnished under other Sections of these Specifications as indicated.
 - 1. Temporary Water Control: Section 01565
 - 2. Mobilization – Section 01900
 - 3. Earthwork: Section 02200

1.08 SUBMITTALS

- A. The Contractor shall submit a plan detailing procedures, equipment, sequences of operations, and schedule to perform the dismantling, relocation, demolition, removal, and disposal activities called for in this Work Item. The *Work Plan* shall include the name, contact information, and qualifications of any subcontractors assisting with or conducting the demolition.
- B. Documentation of existing conditions shall be submitted under the Mobilization item. Documentation of removal, storage, and replacement work shall be submitted to the Department.
- C. The Contractor shall submit information on the facility to which demolition debris will be taken for disposal. The Contractor shall also designate the area in which salvaged material will be stored.

PART 2 PRODUCTS

This Section Not Used.

PART 3 EXECUTION

3.01 GENERAL

- A. No removal or demolition work shall begin until the existing conditions documentation work has been completed and the documentation package accepted by the Department.
- B. The Contractor shall determine means and methods for all demolition tasks specified as part of the Work, subject to the restrictions contained in this specification and subject to approval by the Department and its Resident Engineer.
- C. Erect, and maintain temporary barriers and security devices including warning signs and lights, and similar measures, for protection of the Department, Contractor's employees, all others, and existing improvements to remain.
- D. Protect existing landscaping materials, structures, and utilities not indicated to be demolished.
- E. Take all steps necessary to prevent movement or settlement of adjacent structures and embankments.
- F. The Contractor shall coordinate the demolition of the existing weir and spillway base with the installation of the temporary cofferdam and water controls.

3.02 EXISTING STONE MASONRY WEIR

The Contractor shall demolish the existing stone masonry. The Contractor shall take measures to not disturb the embankment and portions of the upstream stone masonry headwall. Demolished stone shall be removed from the project site to a lawful disposal/recycling facility.

3.03 EXISTING SPILLWAY BASE

The Contractor shall demolish the existing concrete spillway base. Removal of the sediment over the spillway base is included in Section 02200. Demolished concrete shall be removed from the project site to a lawful disposal/recycling facility.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No measurement shall be made for demolishing and legally disposing the existing weir and spillway. The bid items under this section are lump sum quantities.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment, incidentals and mobilization/demobilization costs to demolish and dispose of the stone masonry weir shall be paid for at the applicable lump sum price for Item No. 02065.01 stated on the Form for Bid.
- B. Payment for the scope of the work specified herein, including all labor, materials, equipment, incidentals and mobilization/demobilization costs to demolish and dispose of the existing spillway base shall be paid for at the applicable lump sum price for Item No. 02065.02 stated on the Form for Bid.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
02065.01	Demolition and Disposal of Existing Stone Masonry Weir	Lump Sum
02065.02	Demolition and Disposal of Existing Spillway Base	Lump Sum

END OF SECTION

SECTION 02110
CLEARING, GRUBBING, AND STRIPPING

PART 1. GENERAL

1.01 DESCRIPTION

- A. Under the Work of this Section, the Contractor shall cut and clear trees as indicated, remove surficial debris, grub primary roots and surficial stones and clear the site prior to excavation work.
- B. The work shall consist of clearing, grubbing, removal and lawful off-site disposal of all vegetation, roots, and surficial debris from proposed areas of construction within the Site boundaries as shown on the Contract Drawings.
- C. There are (2) trees proposed for removal.
- D. The Contractor shall conduct work in a manner that preserves from injury or defacement of all vegetation and objects designated by the Department or its Resident Engineer.
- E. Clearing, Grubbing, and Stripping shall be required in areas in areas shown on the Contract Drawings.
Do not clear additional areas unless directed to do so by the Department.
- F. The Department and the Contractor shall cooperate to mark the limits of clearing and pre-mark certain trees within the project area which are to be cut. The Contractor shall coordinate with the Department regarding this effort and then shall protect the trees not to be disturbed.
- G. Topsoil shall be stockpiled in designated areas in such a way as to eliminate/reduce the need for re-handling of excess material which will not be used in loaming or site restoration.

1.02 SCOPE OF WORK

The general scope of work under this Item shall be to furnish all labor, material, tools and equipment and perform all operations necessary to execute all work to clear, grub and strip the indicated areas of the Site. The work shall include all effort necessary to prepare all areas on the site for further earthwork (excavation or embankment) or other construction. The Contractor shall clear, grub, and strip all areas where construction shall take place as shown on the Contract Drawings, as well as any other areas necessary for the work of the Contract (with approval from the Department or its Resident Engineer). The basic scope of each clearing, grubbing, and stripping pay item is discussed below; however, the Contractor is informed that these divisions in no way relieve the Contractor of his obligation to perform ALL necessary clearing, grubbing, and stripping at all locations on the site, irrespective of the basic descriptions provided below:

Clearing and Grubbing shall encompass all Work necessary to remove all trees, vegetation, stumps, and roots from the dam embankment, upstream and downstream embankment slopes, abutment areas, mitigation area, staging areas, and other necessary locations. Trees and vegetation outside the areas shown on the Contract Drawings shall NOT be cleared, grubbed, or otherwise disturbed.

1.03 REQUIREMENTS

- A. All work shall comply with all codes, rules, regulations, laws, and ordinances of the City of Medford, the Commonwealth of Massachusetts, and all other authorities having jurisdiction within the Work area.
- B. All work shall commence after respective sedimentation and erosion control measures are in place to the satisfaction of the Department and its Resident Engineer in accordance with Section 01560 of these Specifications. The Contractor remains solely responsible for the suitability and adequacy of any of the sedimentation and control materials, methods and procedures.
- C. The Contractor shall not burn trees, brush, stumps, and other ignitable materials.
- D. The Contractor shall obtain permission from the Department or its Resident Engineer prior to using storage areas within the Site boundaries for collection or stockpiling of surficial debris. Stockpiles shall be in approved areas only, as shown as Staging Areas on the Contract Drawings.
- E. Any clearing beyond the limits shown on the Contract Drawings shall not be permitted without express permission from the Department.
- F. The Contractor shall make all arrangements necessary for the disposal of cleared lumber, surficial debris, and other material collected during Site clearing. Debris materials shall be stockpiled at an approved on-Site location and lawfully disposed of off-site.
- G. The Contractor shall specifically coordinate with the Department regarding the limits of clearing prior to the start of work.

1.04 RELATED SECTIONS

- A. Section 01560 – Temporary Erosion and Sedimentation Control
- B. Section 02200 – Earthwork
- C. Section 02930 – Loaming, Seeding, and Revegetation

1.05 SUBMITTALS

- A. Submit to the Department for review and comment a plan showing the boundaries of all areas to be cleared, grubbed, and stripped, and showing the locations of proposed stockpiles. Indicate in the submittal the sediment and erosion control measures which will be implemented on and around the stockpiles. Indicate means and methods of clearing and grubbing and of accessing areas to be cleared and grubbed. Indicate stockpile areas and means of placement which will minimize re-handling. Indicate sequencing, if any.
- B. All trees to be removed shall be within the pre-marked boundary laid out by the Contractor based on the Contract Drawings. The boundary is to be reviewed by the Resident Engineer and Consultant.

PART 2. PRODUCTS

Not Used

PART 3. EXECUTION

3.01 PREPARATION

- A. The Contractor shall confirm with the Resident Engineer those areas to be cleared, grubbed, and stripped and the location for the debris stockpiles for materials which will be disposed of off-site.
- B. The Contractor shall coordinate with the Department to identify trees which are to be cleared from the site. These trees shall be within the prominently marked boundary area. Proposed areas for tree removal are shown on the Contract Drawings.
- C. The Contractor shall locate, identify and protect sensitive areas (especially wetland areas, protected trees, forest areas, and any utilities) from damage during work.
- D. The Contractor shall protect benchmarks, survey control points, valves, and existing geotechnical instrumentation from damage or displacement.
- E. The Contractor's landscaping supervisor shall survey the site and, in coordination with the Resident Engineer and/or the Department, identify areas where invasive species, if any, are present. These areas shall be marked so that soil stripped from these areas will not be re-used or mixed with other topsoil. All such work shall be considered incidental and the cost shall be included in the unit price bid for these items.

3.02 CLEARING AND GRUBBING

- A. The Contractor shall clear, cut, or otherwise remove all trees and vegetation from the areas indicated in the Contract Drawings. Identified trees and vegetation outside the indicated areas shall be protected.
- B. The Contractor is informed that a wide variety of sizes of trees must be cleared under the work of this Contract. Specialized work may be necessary for the safe removal of larger trees. The use of heavy machinery to physically uproot large trees prior to cutting to stump level is NOT allowed.
- C. The Contractor shall remove surficial debris, vegetation, roots, and obstructions from all areas which will affect excavation and embankment operations on the Site.
- D. The Contractor shall place all surficial debris into on-site stockpiles for off-site disposal at an approved disposal location by the Contractor. Transportation and disposal will be performed at the Contractor's convenience after approval of the material for disposal and location of disposal.
- E. No burning shall be allowed. The Contractor may chip cleared trees to create wood chip mulch. This material can be used on site as directed by the Department. The Department may have use for some portion of the material and shall be allowed to remove quantities not used on-site by the Contractor. The remaining material shall be lawfully disposed of off-site.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement for payment of Clearing, Grubbing and Stripping shall be made on the basis of actual area cleared, grubbed, and stripped measured in Square Feet.
- B. Measurement for payment of Tree Removal shall be made on the basis of actual number of trees removed. The Contractor shall assume that all trees indicated on the Contract Documents shall be cleared and grubbed under the Work of this Section. Clearing and grubbing of trees of less than four inches of diameter at breast height shall be considered incidental work.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to clear, grub, and strip indicated and other necessary portions of the site, shall be paid for at the applicable unit price for item 02110.01 – Clearing, Grubbing, and Stripping as stated on the Bid Proposal Form.
- B. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to removal all trees indicated on the Contract Documents and as identified by the Department and shall be paid for at the applicable unit price for item 02110.02 – Tree Removal as stated on the Bid Proposal Form.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
02110.01	Clearing, Grubbing, and	Square Feet Stripping
02110.02	Tree Removal	Lump Sum

END OF SECTION

SECTION 02200
EARTHWORK

PART 1. GENERAL

1.01 DESCRIPTION

- A. The work of this section applies to all operations involving earthwork and/or soil material. This specification generally governs the execution of excavation, fill placement, and all other earthwork tasks. This specification also generally governs acceptable soil material properties. The provisions of this specification shall apply to all such work and materials unless specifically superseded in another specification.
- B. When earthwork is included as a fundamental or incidental part of the work of a pay item, the Contractor shall provide all equipment, materials, labor, and incidentals and do all work necessary to complete the earthwork shown on the drawings.
- C. Earthwork tasks governed by this Section include, but are not limited to, the following:
 - 1. Excavation of soil, temporary on-site stockpiling, disposal of unsuitable and excess materials at the direction of the Department or the Resident Engineer.
 - 2. Excavation, stock piling and handling of sediment over the spillway floor.
 - 3. Handling and placement of Gravel Fill for walkway at the erosion area north of the dam.
 - 4. Supplying of all required fill material.
 - 5. Grading and compaction of subgrades.
 - 6. Placing and compacting of appropriate fill material.
 - 7. Backfilling and compacting around the proposed reconstructed weir and under the proposed spillway floor.
 - 8. Intermediate and temporary grading.
 - 9. Final grading as per design plans and sections.
 - 10. Executing all incidental excavation, filling, and grading for general site preparation.
 - 11. Testing of Off-Site Fill for chemical contamination.
- D. The Contractor shall coordinate with the Resident Engineer with regards to field quality control for all earthwork under all pay items, as needed.
- E. Stripping of topsoil from all areas shall be performed and paid for under a separate Section of the Work. Excavation quantities shall be calculated from the ground surface after topsoil material has been stripped.

1.02 SCOPE OF WORK

The general scope of work shall be to perform all earthwork, including excavation, compaction, and grading, required for the Bellevue Pond Dam Rehabilitation Project. The scope of this work has been separated into four (4) pay items, as shown below. Any earthwork not specifically covered under this, or other sections of the Contract Documents shall be considered incidental and shall be accomplished at no additional cost to the Department.

- A. Common Excavation and Filling (Subgrade preparation cuts and fills): Provision of materials, transport, handling, placement, compaction, and grading to meet the grades indicated on the drawings. The intent of the work is to reuse excavated materials provided they meet the specifications included herein. Granular Fill from an off-site sources may be used, as directed by the Resident Engineer, as fill when on-site material is found to be inappropriate or insufficient. This work item also includes excavation, handling and hauling of existing sediment over the spillway base. Excavated sediment may be relocated to an upland area of the park as directed by the Resident Engineer.
- B. Furnishing and Placement of Off-Site Granular Fill from Off-Site Sources: Provision of materials, transport, handling, placement, compaction, and grading of off-site granular fill meeting the material specifications.
- C. Furnishing and Placement of Gravel Fill: Provision of materials, transport, handling, placement, compaction, and grading of Gravel Fill meeting the material specifications. Gravel Fill shall be used to construct and restore the gravel paths in the erosion area north of the dam, as directed by the Contract Drawings.
- D. Furnishing and Placement of Crushed Stone from Off-Site Sources: Provision of materials, transport, handling, placement, compaction, and grading of off-site crushed stone meeting the material specifications. Crushed Stone material from off-site sources shall be used as a base course to the spillway floor slab, as directed by the Contract Drawings.

1.03 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other Sections of these Specifications as indicated:
 - 1. Temp. Erosion and Sediment Controls - see Section 01560
 - 2. Temp. Water Control – see Section 01565
 - 3. Temp. Access and Traffic Controls – see Section 01570
 - 4. Demolition/Removal of Existing Structures – see Section 02065
 - 5. Clearing, Grubbing, and Stripping – see Section 02110
 - 6. Loaming, Seeding, and Vegetation – see Section 02930

1.04 FIELD MEASUREMENTS

- A. Verify survey benchmarks and intended elevations for the work prior to commencement of work.
- B. Verify final grades for conformance to design plans.

1.05 REFERENCE STANDARDS

- A. ASTM C 33 - Standard Specification for Concrete Aggregates
- B. ASTM D422 - 63(2007) Standard Test Method for Particle-Size Analysis of Soils
- C. ASTM D 2940 - Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports
- D. ASTM D698 – Standard Proctor Density Test for soil material

- E. ASTM D1556 - 07 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
- F. ASTM D6938 - 08a Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- G. OSHA Regulations, 29 CFR Part 1926 - Excavations, current revisions.

1.06 SUBMITTALS

Submit to the Department and its Consultant for review and comment the following:

The Contractor shall submit a fifty pound (50 lb.) sample of each type of fill (off site) to the Department and/or Consultant at least ten (10) days prior to intended use.

- A. Submit to the Department and Consultant, at least ten (10) days prior to placement, certified sieve analysis reports and Standard proctor curves for soil materials proposed for use at the site (off-site material).
- B. Submit for review, at least ten (10) days prior to the commencement of work, the proposed construction schedule, sequence of construction, coordination with temporary traffic controls, methods of construction including equipment to be used, excavation support methods and details, and proposed locations of haul roads and staging areas within work limits.
- C. Despite review and comment by the Department or its Consultant, the Contractor shall remain solely responsible for the adequacy and safety of materials and methods used in construction in meeting all regulatory and OSHA standards.
- D. Within two weeks of the Notice to Proceed but no later than 5 days prior to the start of work at the site, the Contractor shall submit the name, contact information, qualifications, and certifications of its proposed Independent Materials Testing Laboratory, including the names and credentials of proposed field testing technicians. The Department shall be the sole judge of the appropriateness of the proposed Laboratory and personnel.

1.07 COORDINATION

- A. Contractor shall be responsible for obtaining samples of soil materials proposed to be used (both from on-site and off-site sources) and transporting them to the site and to an independent testing lab for testing. Materials shall be delivered for testing sufficiently in advance of time planned for incorporating them into the work in accordance with these Specifications. Use of proposed materials by the Contractor prior to testing and approval by the Department shall not be allowed.

1.08 PERMITS AND CODES

- A. All work shall conform to the Drawings and Specifications and shall comply with applicable codes and regulations.
- B. Comply with all rules, regulations, laws and ordinances of the Commonwealth of Massachusetts, Town of Medford, and of all other federal, state, and local authorities having jurisdiction. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided without additional cost.
- C. Excavation safety and support in accordance and compliance with all applicable OSHA and other regulations shall be the sole responsibility of the Contractor.

- D. The Contractor shall be responsible for clearing the site with DigSafe and with all relevant City of Medford Departments which may maintain utility structures in and around the site.**

1.09 DRAINAGE

- A. The Contractor shall provide, at his own expense, adequate drainage facilities to complete all work items in an acceptable manner. Drainage shall be done in an environmentally acceptable manner so that runoff will not adversely affect construction product, construction procedures, nor cause excessive disturbance of underlying natural ground or exacerbate erosion and sedimentation.
- B. The Contractor is advised that groundwater levels within the work area are high and that surface water and groundwater control may be required. The Contractor shall provide, at his own expense, adequate drainage and/or dewatering methods and facilities such that groundwater seepage will not adversely affect the construction product, procedures, nor cause excessive disturbance of underlying natural ground if deemed necessary.
- C. The Contractor shall grade and ditch the staging areas and access roads, as necessary, to direct and control surface runoff in working areas, subject to approval of the Resident Engineer.
- D. Water from excavations shall be disposed of in such a legal manner as will not cause injury to public health, nor to Bellevue Pond water quality, nor to public or private property, nor to existing work, nor to the work completed or in progress, nor to the surface of roads, walks and streets, nor cause any undue interference with the use of the same by the public, except in the designated work areas. Refer to the Section 01565 – Temporary Water Control for details.

1.10 FROST PROTECTION AND SNOW REMOVAL

- A. The Contractor shall, at his own expense, keep the operations under this Contract clear and free of accumulations of ice and snow within the limit of work and elsewhere as required to carry out the work.
- B. The Contractor shall protect the subgrade beneath existing and new structures and pipes from frost penetration when freezing temperatures are expected.
- C. The Contractor shall NOT place fill over frozen soils and shall NOT place frozen fill. All frozen soils shall be removed to the satisfaction of the Resident Engineer prior to fill placement.

1.11 LAYOUT AND GRADES

- A. Lay out all lines and grade work at the site by a Registered Land Surveyor in accordance with drawings and specifications. Establish and maintain permanent bench marks. Maintain all established bounds, bench marks, and replace as directed any which are destroyed or disturbed.
- B. The word "subgrade" as used herein, means the required surface of existing ground, final prepared ground after excavation, or compacted fill.

1.12 OBSERVATION BY RESIDENT ENGINEER

- A. The Department will employ a Resident Engineer (periodically assisted by the DCR's Consultant) to perform full or part-time on-site observation and testing during the earthwork operations. The services of the Resident Engineer may include, but not be limited to, the following:
1. Observation during excavation.
 2. Observation during backfilling and compaction operations.
 3. Laboratory testing and analysis of fill materials specified or proposed for use, as required for verification of Contractor submitted analyses.
 4. Observation and documentation of performance of compaction methodology and effort. During the course of construction, the Resident Engineer or the DCR's Consultant will advise the Department and Contractor in writing, if at any time the work does not, in the opinion of the Resident Engineer or Consultant, conform to the plans and specifications.
- B. The presence of the Resident Engineer, other representatives of the Department, or the DCR's Consultant does not include supervision or direction of the actual work by the Contractor, his/her employees, or agents. Neither the presence of the Resident Engineer, other representatives of the Department, or the DCR's Consultant nor any observations and testing performed by him/her, or any notice or failure to give notice, shall excuse the Contractor from defects discovered in his/her work.

1.13 QUANTITIES

- A. The actual quantity of off-site fill may vary from the quantity shown on the Form for Bid. The intent of the Contract is to minimize the amount of off-site granular fill used. The Contractor shall be paid on the basis of the actual, in-place weight of off-site granular fill placed. The total price paid for the pay item may be more or less than the total shown on the Form for Bid based on the measured, in place quantity and the unit price bid on the Form for Bid. If no off-site fill is placed in the embankment, then no payment under this item shall be made. The total price of the project, as listed on the Form for Bid, will therefore be increased or reduced based on the actual, in place quantities.

PART 2. PRODUCTS

2.01 FILL MATERIALS

All off-site material brought to the site shall be free of contaminants. The Contractor shall identify the source of the material and provide results of environmental testing performed on a representative sample of the material from each source. Testing shall be required for each 500 CY of each type of material from each source of material. Environmental testing shall, at a minimum, include the following: Total Petroleum Hydrocarbons (TPH) by ASTM D3328/EPA Method 8100, Polynuclear Aromatic Hydrocarbons (PAH) by EPA Method 8270, and metals (RCRA 8) by EPA Methods 6010/7471A. Such testing shall be considered incidental to the earthwork items and performed at no additional cost to the Department.

- A. Off-Site Granular Fill Material

Off-site granular material, including crushed stone products, imported for use shall have characteristics as stated below. The type of granular fill used in specific locations at the site shall be as shown on the Contract Drawings or as specified by the Department.

1. General Granular Fill

General Granular Fill shall be inorganic soil free of clay, loam, ice and snow, roots, sod, rubbish, and other deleterious or organic matter; graded within the following limits:

Sieve Size	Percent Finer by Weight Granular Fill
3-inch	100
No. 10	30-95
No. 40	10-70
No. 200	0-15

Off-site General Granular Fill shall be well graded with a uniformity coefficient (Cu) of 10 or above and shall not be gap graded. Atterberg limits must plot above the "A" of the standard plasticity chart and the liquid limit shall not exceed 50.

2. Crushed Stone

Crushed Stone shall consist of durable crushed rock consisting of angular fragments, free from a detrimental quantity of thin, flat, elongated pieces or shall be durable crushed gravel stone obtained by artificial crushing of gravel boulders or fieldstone. Crushed Stone shall conform to the quality requirements of ASTM C 33.

The crushed stone shall be free from trash, ice, snow, tree stumps, roots, organic materials, and other deleterious matter.

Crushed Stone shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u> <u>3/4-Inch Stone</u>
1 inch	100
3/4 inch	90-100
5/8 inch	---
1/2 inch	10-50
3/8 inch	0-20
No. 4	0-5
No. 8	---

B. Gravel Fill

This material shall be a natural screened sand and gravel or a combination of crusher-run coarse aggregates of crushed stone and fine aggregates of natural sand or stone screenings uniformly pre-mixed with a predetermined quantity of water. The coarse aggregates shall consist of hard, durable particles of fragments of stone. Materials that break up when alternately frozen and thawed or wetted and dried shall not be used. Coarse aggregates shall have a percentage of wear, by the Los Angeles test (ASTM C-131), of not more than 45. Fine aggregate shall consist of natural or crushed sand. Unless otherwise directed by the Department, the composite material shall be free from loam, have a plasticity index between 4 and 12, and shall conform to the following grading requirements:

Sieve Size	Percent Finer by Weight Dense Graded Crushed Stone
¾ Inch	100
No. 4	50-80
No. 50	10-35
No. 200	4-12

C. Other Soil Materials

Other soil materials proposed for use at the site shall meet Massachusetts Highway Department specifications. The Resident Engineer shall have sole authority to authorize the use of alternative soil materials. No additional payment shall be made for substituted materials.

2.02 POLYETHYLENE BARRIER

Stockpiles of erodible material are to be covered prior to inclement weather with a minimum of 20-mil (0.020 inches) polyethylene sheeting.

PART 3. EXECUTION

3.01 EXAMINATION AND PREPARATION

Grades, both existing and finished, are indicated on the Drawings. The Department is not responsible for existing grades shown on the Drawings. The Contractor shall check all areas wherein grades are shown to satisfy himself as to actual conditions. The Contractor shall be responsible for establishing all control points and marks necessary for the work. Precautions shall be taken to preserve the materials outside the lines of the limit of work in the most undisturbed condition possible. The Contractor shall:

- A. Identify and verify all required lines, levels, contours, and datum.
- B. Notify the Department in writing of unanticipated subsurface conditions and discontinue affected work in area until notified to resume.
- C. Protect plant life, grassed areas and other features remaining as a portion of final landscaping.
- D. Verify fill materials to be reused are acceptable.

3.02 PROTECTION OF ADJACENT FACILITIES AND PROPERTIES

- A. Protect all adjacent facilities which may be damaged by excavation work. All construction induced damage shall be repaired by the Contractor at no additional expense to the Department.
- B. The work area shall be graded, shaped, and otherwise drained in such a manner as to minimize soil erosion, siltation of drainage channels, damage to existing vegetation and property outside the limits of the work area.

3.03 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION

- A. The Contractor shall take the necessary steps to avoid disturbance of subgrade during excavation and filling operations. Methods of excavation and filling operations shall be revised as necessary to avoid disturbance of the subgrade, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials, dewatering and other acceptable control measures.

3.04 EXCAVATION

- A. Perform all work of any nature and description required to accomplish the work as shown on the Drawings as specified. The work shall include, although not be limited, to earth excavation, on-site stockpiling of materials; and all re-handling of excavated material.
- B. Excavations, unless otherwise required by the Resident Engineer, shall be carried only to the elevations and limits shown on the Drawings. If unauthorized excavation is carried out below required subgrade and/or beyond minimum lateral limits shown on Drawings, it shall be backfilled with compacted fill, of a type approved by the Resident Engineer, at the Contractor's expense. Excavations shall be kept in good condition at all times, and all voids which may endanger existing structures shall be filled to satisfaction of the Resident Engineer.
- C. Excavated material shall not be reused at the site unless approved by the Resident Engineer and/or the Consultant.
- D. All excavations shall be performed in accordance with OSHA requirements.
- E. The Resident Engineer shall assess the limits of excavation during and after the completion of the work. The Resident Engineer may, at his discretion, reduce or extend the limits and/or depth of excavations, as judged necessary. It is the intent of this work to remove and replace all material which may have been subject to internal erosion and loss of structure.
- F. At the request of the Resident Engineer or Consultant, the Contractor shall excavate exploratory test pits at the locations and to the depth requested. The Contractor shall provide the Resident Engineer or Consultant with safe working conditions, assistance, equipment, and up to an hour to log the test pit prior to refilling the pit with compacted material.
- G. The Contractor shall provide the Resident Engineer with adequate notice in advance of commencing excavations. Following the completion of the excavations, the Contractor shall provide the Resident Engineer with up to one hour, per excavation location, to prepare a test pit log of the excavation. During this time the Contractor shall be prepared to cease all work within the excavation, as requested by the Resident Engineer. The Contractor shall make such equipment and personnel available to the Resident Engineer as are necessary to assist in safe entry and examination of the excavation. Logging of excavations made in the course of the work of the Contract shall be at no additional expense to the Department.
- H. Any debris, sediment, or other material that falls into or otherwise enters the wetland resource area during the construction period must be immediately removed by hand.

3.05 BACKFILLING

- A. All soil subgrades shall be proof-compacted prior to placement of fill. Proof-compact the subgrade by means of a self-propelled walk-behind compactor/trench roller hand-guided vibratory drum roller having a static weight of no more than 2,000 lbs. **Large drum rollers shall not be used on the dam.** Proof-compaction in confined areas shall be accomplished by means of drum-type, power-driven, hand-guided vibratory compactors operating at 2,000 cycles per minute, or by hand-guided vibratory plate tampers, with a static weight of at least 300 pounds. Proof-compaction may be omitted at the direction of the Resident Engineer. Soft areas shall be excavated and replaced with appropriate compacted fill.
- B. Fill shall not be placed over porous, wet, frozen, soft, or spongy subgrade or embankment surfaces. In the event these conditions occur, the Contractor shall excavate and remove the unsuitable material prior to placing more fill.
- C. **Contractor shall dewater to maintain groundwater levels below bottom of excavations and/or subgrades as necessary. All fill is to be placed "in-the-dry".**
- D. The Contractor shall bench all existing slopes prior to placing horizontal fill layers on existing slopes steeper than 6H to 1V.
- E. Place and compact materials in continuous horizontal layers not exceeding **eight-inch (8") loose (pre-compaction) lift thickness.** **Do not place frozen material.**
- F. The general standard for compaction for all granular soil materials shall be a dense and stable material which, if tested, would achieve a minimum ninety-eight percent (98%) of the maximum dry density as determined by ASTM Test D-698 (Standard Proctor Test), with a water content between plus or minus two percent ($\pm 2\%$) of optimum moisture content. If wet fill cannot be adequately compacted, remove and replace with drier fill at the Contractor's expense.
- G. Fill that is too wet for proper compaction, as determined by testing or the Resident Engineer's judgment, shall be disced, harrowed, or otherwise dried to a proper moisture content for compaction to the required density, specified herein. If the fill material cannot be dried within forty-eight (48) hours of placement, it shall be removed and replaced with drier fill at the Contractor's expense.
- H. Fill that is too dry for proper compaction, as determined by testing or the Resident Engineer's judgment, shall receive water uniformly applied over the surface of the loose layer. Sufficient water shall be added to allow compaction to the required density.
- I. When compacting behind or adjacent to structures or rock, place and compact fill in loose layers not more than eight inches (8") thick. Compact with a powered tamping compactor to achieve 98% of standard proctor.
- J. Fill which becomes disturbed after compaction as a result of the Contractor's operations shall be removed and replaced or re-compacted to the specified degree of compaction at the Contractor's expense.
- K. Any testing (physical or chemical) required shall be performed at no additional cost to the Department.

3.06 FIELD QUALITY CONTROL

- A. All field quality control of earthwork shall be provided by the Contractor's approved Independent Testing Laboratory at no additional expense to the Owner. All field and laboratory quality control work shall be considered incidental to the Work of this Section.
- B. The Resident Engineer shall observe the placement of all fill material. He shall be provided with the results of tests by the Contractor's Independent Testing Lab or make such observations as are judged necessary to render an opinion as to whether the materials used and compaction effort provided are appropriate to meet the intent of the specifications.
- C. The Resident Engineer shall judge achievement of the compaction standards both by visual observation of compaction effort and success or through the Contractor's Independent Testing Lab's use of in-place density tests including, but not be limited to, in-place compaction (density and moisture) testing performed in accordance with ASTM D1556 (sand cone) or ASTM D6938 (nuclear density meter). The frequency of testing shall be at the Resident Engineer's sole discretion, with a minimum of one test for each lift of material placed in a discrete area, at a minimum frequency of one (1) test for every 5,000 square feet of fill and/or one (1) test for every area of less than 500 square feet placed in one (1) day.
- D. If compaction is judged by the Resident Engineer to be inadequate, the Contractor shall provide additional compaction or otherwise correct the problem at no additional cost to the Department.
- E. The Contractor shall be responsible for providing to the Resident Engineer and Department all results of independent analysis of proposed off-site fill materials performed in accordance with ASTM C422, ASTM D698. Test results to be provided are as follows:
 - 1. Particle size (sieve) analysis for each off-site material.
 - 2. Maximum dry densities and optimum moisture contents, as per the Standard Proctor Test Methodology, for each off-site material.
 - 3. New Proctor curves shall be developed whenever the properties of a certain material are judged by the Resident Engineer to have substantially changed.

A separate proctor test shall be performed for each kind of off-site material to be used at the site.
- F. The Contractor shall be responsible for coordinating with the Resident Engineer. No fill shall be placed if the Resident Engineer is not available to observe the Work. Fill placed in the absence of the Resident Engineer may be required to be excavated and replaced at the Contractor's expense.
- G. The Contractor shall provide the Resident Engineer and the Department free and safe access to work at all times. Provide for observation of bottom of excavation and of bearing surfaces at no additional cost to the Department.

3.07 EARTHWORK UNDER OTHER SECTIONS

Unless specifically contradicted, all earthwork executed under other Sections of the Contract shall be governed by the methods specifications detailed in this Section.

3.08 STOCKPLING

- A. Stockpile materials on site in such a manner so as to maintain the segregation of different types of material. The Contractor shall stockpile all excavated material that exhibits olfactory or visual evidence of potential contamination. Soils that exhibit evidence of potential contamination shall be stockpiled separately from other excavated soil.
- B. The Contractor shall provide, at no additional cost, temporary signage which identifies the type of soil or rock material in each stockpile.
- C. The Contractor is responsible for the construction, protection and maintenance of temporary stockpiles through the final on-site disposal or re-use of those stockpiles by the Contractor.
- D. The transfer of soil materials from the excavation to the stockpile areas will be conducted by the Contractor in such a manner as to prevent the spread of contaminated or potentially contaminated materials across the site and to minimize the mixing of soils from different areas of the excavation in different stockpiles.
- E. The Contractor will place stockpiled soils within a designated stockpile area, graded to shed water, and shall cover the stockpiled soils prior to inclement weather and at the end of each work day with a minimum 20-mil (0.020 inches) black polyethylene cover overlapped and weighted to form a continuous waterproof barrier over the soil. The cover will be maintained by the Contractor throughout the stockpile period to prevent water from entering the soils and to prevent blowing dust.
- F. Excavation and soil handling will be performed in a manner which limits mixing of soils with different levels and types of contamination to the highest degree possible. Disposal of soil which is contaminated as a result of the Contractor's careless or unauthorized procedures for excavation or soil handling and stockpiling will be at his own expense.
- G. No debris, fill, and excavated material shall be stockpiled within 25 feet (horizontal distance) of the limit of work. At no time shall any debris or other material be buried or disposed of within wetland resource areas or the 100-foot buffer zone resource areas, other than fill that is allowed by the Order of Conditions and as shown on the Project Plans.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement of furnishing, placement, and compaction of Off-Site Granular Fill imported from off-site sources and placed on-site shall be on a basis of the Certified weight of the Off-Site Granular Fill successfully placed, in Tons. Weight slips shall be submitted to the Resident Engineer for approval and countersignature and no payment shall be made for quantities not approved by the Resident Engineer.
- B. Measurement of furnishing, placement, and compaction of Gravel Fill imported from off-site sources and placed on-site shall be on a basis of the Certified weight of the Gravel Fill successfully placed, in Tons. Weight slips shall be submitted to the Resident Engineer for approval and countersignature and no payment shall be made for quantities not approved by the Resident Engineer.

- C. Measurement of furnishing, placement, and compaction of Crushed Stone imported from off-site sources and placed on-site shall be on a basis of the Certified weight of the Crushed Stone successfully placed, in Tons. Weight slips shall be submitted to the Resident Engineer for approval and countersignature and no payment shall be made for quantities not approved by the Resident Engineer.
- D. Determination of areas and volumes shall be made jointly by the Resident Engineer and the Contractor. No payment shall be made for quantities not jointly measured and agreed to by the Resident Engineer and the Contractor.

4.02 PAYMENT

- A. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including all handling and temporary stockpiling effort, associated with Cuts and Fills shall be paid for at the applicable lump sum price for Item 02200.01 stated on the Form for Bid.
- B. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including provision, transport, handling, placement, compaction, shaping, grading, and testing associated with furnishing, placement, and compaction of Off-Site Granular Fill shall be paid for at the applicable unit price for Item 02200.02 stated on the Form for Bid.
- C. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including provision, transport, handling, placement, compaction, shaping, grading, and testing associated with furnishing, placement, and compaction of Gravel Fill shall be paid for at the applicable unit price for Item 02200.03 stated on the Form for Bid.
- D. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including provision, transport, handling, placement, compaction, shaping, grading, and testing associated with furnishing, placement, and compaction of Crushed Stone shall be paid for at the applicable unit price for Item 02200.05 stated on the Form for Bid.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
02200.01	Cuts/Fills	Lump Sum
02200.02	Off-Site Granular Fill	Ton
02200.03	Dense Graded Crushed Stone	Ton
02200.04	Crushed Stone	Ton

END OF SECTION

SECTION 02930
LOAMING, SEEDING, AND VEGETATION

PART 1. GENERAL

1.01 DESCRIPTION

- A. The work under this Section includes the furnishings of all labor, equipment, supplies and materials for loaming (imported loam), seeding, vegetating, and related items, as indicated on the drawings and/or as specified herein as follows:

1. Loam
2. Seeding
3. Planting
4. Sodding
5. Fertilizing
6. Erosion Protection
7. Maintenance

The work of this Section shall apply to all areas where vegetation is necessary.

- B. The work of this item covers loaming, planting and seeding operations, as well as prior preparation and subsequent conditioning (fertilizer and erosion protection) and maintenance, at all locations where fill is placed, excavations made, or existing vegetation is disturbed.
- C. The performance of this work shall be judged by the establishment of appropriate ground cover, as specified, in the indicated areas. The Contractor shall be responsible for the watering, mowing, and other proper care of the seeded areas until final acceptance.
- D. On-site topsoil may be reused. However, it is expected that additional off-site loam may be required for the proposed grass areas. The Contractor shall be responsible for the determination of the quantities of off-site loam required.
- E. In general, the work shall consist of all loaming, planting, seeding, and revegetation necessary to prepare all areas on the site for revegetation, placing suitable loam, seeding with approved seed mix, conditioning and fertilizing the soil as required, protecting the area from erosion through the use of appropriate mulch and/or biodegradable blankets, and maintaining the seeded areas (watering, etc.) until the grass and vegetation is well established. The Contractor shall be responsible for all maintenance and repair of loam and seeded areas until establishment and initial acceptance. The Contractor shall loam, seed, and revegetate all soil areas where construction shall take place as shown on the Contract Drawings, as well as any other areas necessary for the work of the Contract (with approval from the Department). The Contractor shall perform ALL necessary loaming, seeding, and revegetation at all locations on the site.
- F. Loaming, seeding, and revegetation of areas disturbed by the Contractor beyond the limits of work shown on the Contract Drawings shall be executed as per this Section at no additional cost to the Department.

1.02 SCOPE OF WORK

The general scope of this Section shall be to perform all work necessary to create a healthy, dense, and established grass cover on all areas to be vegetated as part of the Work. In addition, the work includes a limited area of shrub planting southeast of the downstream stone masonry headwall downstream of the dam and the planting of two Red Oak trees in the erosion area north of the dam, as shown on the drawings. The scope of this work has been separated into three (3) pay items, as shown below.

- A. Off-Site Loam: The Work of this Item shall include the provision of, handling, placement, grading, shaping, conditioning, and fertilizing of loam from approved, weed-free off-site sources, in the unexpected event that off-site material is needed, to all areas where fill is placed, excavations made, or existing vegetation is disturbed. The typical final thickness of the loam layer shall be six (6) inches. No off-site loam will be used if on-site sources are of sufficient quantity and quality.
- B. Shrubs and Trees: The Work of this Item shall include the furnishing and planting of shrubs and trees, protecting the area from erosion through the use of appropriate mulch, and maintaining the shrubs and trees (watering, maintenance mulching, etc.) until the shrubs and trees are well established and throughout the maintenance period.
- C. General Seeding: The Work of this Item shall include the furnishing and application of specified seed mix in loamed areas with approved general seed mix(s), protecting the area from erosion through the use of appropriate mulch, and maintaining the seeded areas (watering, maintenance seeding, etc.) until the grass and vegetation is well established and throughout the maintenance period.
- D. Erosion Control Materials: The Work of this Item shall include the furnishing installation of approved biodegradable temporary erosion control blankets to protecting seeded areas from erosion in locations where mulch is insufficient due to steep slopes or other reasons. The work shall include all staking and other means and efforts necessary to secure the blankets.

1.03 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other Sections of these Specifications as indicated:
 - 1. Temporary Erosion and Sedimentation Controls – See Section 01560
 - 2. Clearing, Grubbing, and Stripping – See Section 02110
 - 3. Earthwork - See Section 02200

1.04 PROTECTION OF THE LAND AND WATER

The project is located adjacent to the Bellevue Pond. It is critical that the Contractor not create undue impacts on the area. The Contractor shall protect the areas during installation work, particularly from vehicle traffic. No fertilizers or other chemicals shall be allowed to reach these waters. DO NOT over-fertilize and take care that runoff containing fertilizer does not enter surface waters. NO herbicides, pesticides, or similar chemicals will be allowed at the site unless specifically approved by the Department. Fertilizers must be approved prior to application and shall not contain herbicides or pesticides.

1.05 SUBMITTALS

The Contractor shall submit to the Department for review and approval, the following information a minimum of ten (10) days in advance of starting any loaming and seeding operations:

- A. Composition, test data, Manufacture's information, and/or source of following material:
 - 1. Soil Chemistry Test Results
 - 2. Off-site loam material
 - 3. Shrubs and Trees
 - 4. Seed mix (including certification of weed content)
 - 5. Turf Sod (including composition and source)
 - 6. Lime
 - 7. Fertilizer
 - 8. Compost
 - 9. Mulch and/or Erosion Protection Blanket material

PART 2. PRODUCTS

2.01 LOAM

A. Loam

Off-site loam, to be furnished from sources outside of the project limits, shall consist of loose, friable, sandy loam, or loam topsoil, free of admixture of subsoil, refuse, stumps, rocks, brush, weeds and other materials which will prevent the formation of a suitable seed bed. No stones in excess of one and one-quarter inch (1-1/4") in diameter will be tolerated. The soils shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
1-inch	90-100%
No. 4	70-95%
No. 40	30-85%
No. 100	25-50%
No. 200	20-40%
(No more than 15 percent of loam shall be clay)	

The Contractor shall notify the Department of the location of the source of supply for the loam at least ten days prior to delivery of the loam to the project site. Any imported materials which do not meet the above requirements shall be rejected and removed from the site.

Loam shall contain at least 10%, but not more than 20%, organic material as determined by the loss during ignition of oven-dried samples. Test samples shall be dried to a constant weight at a temperature of 221°F ± 5°F. Loam shall be amended with well-cured compost as necessary to achieve minimum 10% organic content.

Loam shall not have greater than 500 ppm salt.

B. Testing Requirement

All loam shall, at the Contractor's expense, be subjected to a Standard Soil Test with Organic Matter which shall include reporting of the following parameters: pH, Buffer pH, Extractable Nutrients, Extractable Heavy Metals (e.g. Lead), Cation Exchange Capacity, Percent Base Saturation, Percent Organic Matter, and Total Soil Nitrogen. The laboratory test results shall provide recommendations for nutrient and pH adjustments.

A minimum of one test shall be performed on each distinct off-site loam source. A standard soil test shall be performed for every 200 CY of loam used at the site.

Soil testing shall be performed at the University of Massachusetts Soil and Plant Tissue Testing Laboratory or other approved accredited testing laboratory.

2.02 2.02 COMPOST

A. Compost mature and well cured (4-6 months curing after completion of thermophilic compost process) and moderately screened. It shall have a moisture content that has results in no visible free water or dust produced when handling the material.

B. Compost shall meet the following criteria:

	Minimum	Maximum
Percent passing 2"	100%	--
Percent passing 1"	90%	100%
Percent passing ¾"	70%	100%
Percent passing ¼"	4%	75%

C. Compost pH shall be between 6.0 and 8.5. Manufactured inert material (plastic, metal, etc.) shall be less than 0.5% on a dry weight or volume basis, whichever provides the least amount of foreign material. Minimum organic matter shall be 40% dry weight basis as determined by Loss-On-Ignition Matter Method. Soluble salt contents shall be less than 6.0 mmhos/cm. The compost shall be composed of a minimum of 65% by volume recycled plant waste. A maximum of 35% by volume of other approved organic waste and/or biosolids may be substituted for recycled plant waste. The supplier shall provide written verification of feedstock sources.

D. Compost shall be certified free of herbicides and other harmful chemicals.

2.03 SHRUB PLANTINGS

A. The Contractor shall furnish all plants shown on the Contract Drawings, as specified. Plants shall be nursery grown unless specifically authorized to be collected.

B. Plants shall conform to the American Standard for Nursery Stock (ANSI Z60.1).

C. Plants shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name.

D. Shrubs shall meet the following standards:

1. Shrubs shall be healthy and vigorous plants which are very well shaped, heavily branched, densely foliated, and true to form for the variety.
2. Canes or Trunk(s) and Branches:
 - a. Well-formed and sturdy.
 - b. Branching shall be uniformly distributed close to the ground.

- c. Scars shall be free of rot and not exceed $\frac{1}{4}$ the diameter of the wood beneath in greatest dimension unless completely healed.
 - d. Pruning scars shall be clean cut and shall leave little or no protrusion from the trunk or branch.
 - e. Graft unions shall be completely healed.
 - f. No suckers or water sprouts.
 - g. Contain no dead wood.
 - h. Free of cracks, splits, or cambium peeling.
- 3. Shrubs with pest or mechanical damage will not be accepted.
 - 4. Shrubs shall show no signs of frost or winter damage to the foliage. Foliage shall not be in a state of drought stress. Leaves or needles shall show no signs of wilt or desiccation due to weather stress.
- E. Root system shall meet the following standards:
- 1. Each plant shall have an extensive, symmetrically balanced fibrous root system. Root balls that show signs of asymmetry, injury, or damage to the root system shall be rejected.
 - 2. Curling or spiraling of the roots along the walls of rigid containers will not be accepted.
 - 3. The fibrous root system of all plants shall be moist and fresh with a white color when washed of soil. When the plant is removed from the container the visible root mass shall be healthy with white root tips. The root systems shall be free of disease, insect pests, eggs, or larvae.
 - 4. All trees and all shrubs which are not grown in containers must be moved with the root systems as solid units with balls of earth firmly wrapped with untreated 8-ounce natural, biodegradable fabric burlap, firmly laced with stout, natural biodegradable cord or twine. The base of the tree trunks shall be wrapped with a protective burlap layer, surrounded by a cardboard trunk protector, and loosely tied with twine.
 - 5. The diameter and depth of the balls of earth must encompass the fibrous and root feeding system necessary for the healthy recovery of the plant. Minimum root ball diameters and depths shall be in accordance with the American Standard for Nursery Stock.
 - 6. Plants shall not be loose in the container.
- F. Container grown plants which have roots growing out of the container may be rejected.

2.04 TREES:

- A. New trees shall be as indicated on the Contract drawings.
- B. New trees shall be healthy and vigorous, free from physical damage, free of disease, insect pests and their eggs, and larvae.
- C. Except as otherwise specified, size and grade of plant materials shall conform to ANSI Z 60.1. In no case shall rootball size be less than 11 inches in diameter for each inch of caliper.
- D. Trees shall have outstanding form, symmetrical, heavily branched with an even branch distribution, densely foliated and budded, and a strong, straight, distinct leader where this is characteristic of species. Trees shall possess a normal balance between height and spread. The Engineer will be the final arbiter of acceptability of tree form.

- E. Trees shall have a well-developed fibrous root system.
- F. Trees shall be free of physical damage such as scrapes, broken or split branches, scars, bark abrasions, sun scalds, fresh limb cuts, disfiguring knots or other defects.
- G. Trees shall not be pruned before delivery.
- H. Unless otherwise permitted by the Engineer, trees shall be nursery grown.
- I. Trees shall be grown for at least two years under climatic conditions similar to those in the locality of the Project Site.
- J. Nursery grown trees shall be freshly dug. No heeled in plants or plants from cold storage will be accepted, unless otherwise permitted by the Engineer.

2.05 SEED

A. General Seed Mix

Seed shall be the commercial product of a reputable grower approved by the Department and shall be certified to be not more than one (1) year old. The seed mix (no more than 1% by mass) shall be certified as weed free. The seed mix shall be one which contains native grasses which are suitable for shady locations and provide habitat value.

The seed mix proposed for use shall be the New England Erosion Control/Restoration Mix for Dry Sites or equivalent. Seed mixes provided by New England Wetlands Plants, Inc. (NEWPI) or other approved grower/vendor and optimized for the on-site conditions will be appropriate. New England Erosion Control/Restoration Mix for Dry Sites is composed of the following species:

New England Erosion Control/Restoration Mix for Dry Sites

Area	Species		Ind.
	(Botanical Name)	(Common Name)	
1	<i>Elymus canadensis</i>	Canada Wild Rye	FACU+
	<i>Festuca rubra</i>	Red Fescue	FACU
	<i>Lolium multiflorum</i>	Annual Ryegrass	
	<i>Lolium perenne</i>	Perennial Ryegrass	
	<i>Schizachyrium scoparium</i>	Little Bluestem	FACU
	<i>Panicum virgatum</i>	Switch Grass	FAC
	<i>Sorghastrum nutans</i>	Indian Grass	UPL

The application rate shall be 35 pounds of New England Erosion Control/Restoration Mix for Dry Sites per acre of seed area or the manufacture's recommended application rate, whichever is greater.

- B. Seed mix substitution must receive prior approval by the Department.
- C. The seed shall be furnished and delivered premixed in the proportions specified above. All seed shall comply with applicable State and Federal seed laws. A grower's certificate of compliance with the specifications shall be submitted by the grower with the shipment of the seed. The certificate shall include the guaranteed percentage of purity, weed content and germination of the

seed, and also the net weight and date of shipment. No seed shall be sown until the Contractor has submitted the certificate to the Department.

2.06 FERTILIZER

Fertilizer shall be furnished in containers plainly marked with chemical analysis of the product and shall be of organic, slow-release composition. Fertilizer composition shall be based on soil test results as recommended by the testing lab.

2.07 LIME

Lime shall consist of pulverized lime obtained by grinding either calcareous or dolomitic lime so that ninety-five percent (95%) of the material will pass a No. 20 sieve and at least fifty percent (50%) will pass a No. 100 sieve, and shall have a satisfactory neutralizing value.

2.08 EROSION CONTROL BLANKET MATERIAL

- A. Erosion control blankets shall be appropriate for use on slopes greater than 4:1 (horizontal to vertical) or elsewhere when mulch is not stable. The erosion protection blankets shall be for temporary application and shall be biodegradable and non-toxic. Materials such as jute, coir fiber, and mattresses with straw matrices are judged acceptable, provided no other unsuitable material is included. All erosion control products should be new and previously unused and free of weed and other undesirable seeds. The purpose of these materials is to provide temporary erosion control during the period of establishment of the underlying grass and vegetation. The blankets shall allow for the growth of grass seeded under the blankets.
- B. Erosion control blankets anchors shall be compatible with the blanket material and shall be of wooden or other biodegradable material.

2.09 MULCH

- A. Mulch used over seeding areas shall be free from weeds or coarse matter. A sample shall be submitted. Hay mulch is not allowed.
- B. Special care shall be taken to ensure that mulch imported to the site is free from invasive wetland species seeds or plant matter.
- C. Commercially manufactured hydro-mulch material with appropriate tackifier may also be allowed if approved by the Department.

PART 3. EXECUTION

3.01 LOAM

- A. Loam shall be amended in accordance with the recommendations of the Testing Laboratory provided in their report and in accordance with these specifications.
- B. Loam shall be spread so as to form a cover of topsoil in all areas to be seeded or otherwise vegetated to a minimum depth of six (6) inches unless otherwise shown on the drawings or directed by the Department.
- C. Prior to spreading loam, the areas shall be cleared, grubbed, and brought to final subgrade elevation. Areas designated for covering with topsoil shall be scarified or otherwise roughened to

a depth of 2 inches, just prior to the application of topsoil. Take care not to disturb the roots of existing or newly planted trees and shrubs during scarifying.

- D. After the spreading of loam all stiff clods, hard lumps, large stones, trash, stakes, wood, brush, stumps, roots, or other objectionable material shall be gathered and removed from topsoiled area through screening, raking, or similar means. Moderate compaction may be accomplished by the use of a lawn roller commonly used for this work. Disposal of materials screened from topsoil and/or loam shall be considered incidental to the Work of this Section.
- E. Promptly fertilize, seed, lightly compact, mulch, or otherwise cover, and stabilize through tracking with suitable equipment any.

3.02 APPLICATION RATES OF LIME, FERTILIZER AND SEED

- A. Prepared soils shall be collected and submitted to the approved testing services for testing in accordance with their guidelines. At a minimum, the soil shall be tested as per the requirements in Paragraph 2.01 of this Section. Soils shall be treated in accordance with the recommendations of the Testing Laboratory provided in their report.
- B. Lime, if required by the results of soil testing, shall be applied and thoroughly incorporated in the layer of loam and topsoil to adjust the acidity of the material. The results of the soil test shall dictate the rate of lime application.
- C. Fertilizer shall not be applied unless the results of soil testing indicating the soils are substantially deficient. If required, fertilizer shall be raked to a depth of at least two inches (2") and the area brought to a smooth surface. The results of the soil test shall dictate the rate of fertilizer application.
- D. Lime and/or fertilizer shall be mixed thoroughly into the loam seedbed during preparation and prior to seeding.
- E. Compost, if required, may be incorporated into the topsoil or loam prior to spreading or following spreading. Application rate should be as required to achieve a minimum of 10% organic matter. Typically, this can be achieved by applying a 2-4 inch depth of compost on top of the spread loam and thoroughly incorporating the compost into the upper six (6) inches of soil. Wide-tracked equipment shall be used to avoid compaction of the soil.
- F. The seed mixture shall be sown at a minimum rate as specified above.
- G. Mulch shall be applied at a rate of seventy to ninety pounds (70-90 lbs.) per one thousand square feet (1,000 sf).
- H. As directed by the Department, as an alternative to mulch, or if mulch is found to be ineffective in preventing erosion prior to vegetation establishment, erosion control blankets shall be installed as per the manufacture's recommendations. Erosion control blankets shall be installed over all areas of revegetation where slopes exceed 4:1 (H:V).

3.03 PLANTING: SHRUBS, GRASSES, AND TREES

- A. Excavate pits, beds and trenches with sloping sides and with bottom of excavation slightly raised at center to provide proper drainage. Loosen hard subsoil in bottom of excavation.
 - 1. For balled and burlapped plants, make excavations at least twice as wide as the ball diameter and equal to the ball depth.
 - 2. For container grown stock, excavate as specified for balled and burlapped stock, adjusted to size of container width and depth.

B. Obstructions Below Ground

1. In the event that rock, underground construction work or obstructions are encountered in any plant life excavations work under this contract, alternate locations may be selected by the Engineer.
2. Where locations cannot be changed, the obstruction shall be moved, subject to the Engineer's approval, to a depth of not less than 16 inches below grade, and no less than 6 inches below bottom of ball or roots when plant is properly set at the required grade.

C. Set balled and burlapped and container stock on layer of compacted planting soil mixture, plumb and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades. Remove burlap from sides of balls; retain on bottoms. Plastic containers or other synthetic root ball wrapping material must be removed entirely from root ball. When set, place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.

D. Set container grown stock as specified for balled and burlapped stock, except cut containers away; remove bottoms of wooden boxes after partial backfilling so as not to damage root balls.

E. Prune, thin out and shape trees in accordance with standard horticultural practices. Pruning shall be done after delivery of plants and after plants have been inspected and approved by Engineer. Review pruning procedures with Engineer before proceeding.

F. Remove and replace excessively pruned or mis-formed stock resulting from improper pruning.

G. Wrap tree trunks of 2-inch caliper and larger spirally from bottom to top with material specified and adequately secure. The wrapping shall overlap and entirely cover the trunk from the ground to the height of the second branches and shall be neat and snug. Overlap shall be approximately 2 inches and tie at 24-inch intervals with waxed twine.

H. Mulching: Apply 3-inch-thick layer of bark mulch over entire area of the saucer of each tree and planting areas as indicated on the Drawings.

I. Guy and stake plants immediately after planting, as indicated and as necessary.

J. Any excess soil, debris, or trimmings shall be removed from the Project site immediately upon completion of each planting operation.

3.04 MAINTENANCE

A. Maintain all plant material until acceptance by the Department. Begin maintenance immediately after planting.

B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, re-mulching, removal of dead material, resetting plants to proper grades or upright position, maintaining the planting saucer and replacement of plants that are in decline or die.

1. Plants shall be inspected for watering needs at least twice each week and watered to promote plant growth and vitality. Do not compact planting soil in the process of water plant material. Place wood board ballast to walk between plants.

2. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as required to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.
 3. Plants that are in decline or die during the maintenance period shall be removed and replaced by the Contractor within one week of notification and replaced during that growing season.
- C. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures. If required, the Contractor shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures. The Department shall be immediately advised of such actions. Inspection and recommendation reports shall be submitted to the Engineer.
- D. The Contractor shall be responsible for the watering of all seeded and grassed areas, which shall be kept moist. The Engineer's decision will prevail in the event that a dispute develops with the Contractor as to whether or not the grassed areas are moist. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment.
- E. Areas which fail to achieve established vegetation, as described herein, shall be replaced and maintained the Contractor, at no addition expense to the Owner. Contractor to provide a 1-year warranty.

3.05 TIME OF SEEDING

- A. The recommended seeding period is from April 1 to June 1. However, seeding operations may be dictated by the project schedule. Regardless of the time of seeding, the Contractor shall be responsible for complete establishment of native groundcover in the seeding areas. When directed, areas in the project which do not develop a satisfactory growth of grass shall be reseeded. Reseeding shall be incidental to the original seeding item requirements. Reseeding is at no additional cost to the Department and shall be at the direction of the Resident Engineer.
- B. Dormant seeding after the recommended seeding time may be allowed, but the seeding application rate shall be doubled.

3.06 FERTILIZING AND LIMING

- A. Fertilizing and liming shall be done when the soil is in a moist condition and at least twenty-four (24) hours before the sowing of seed. The fertilizer and lime shall be applied to the soil by means of a mechanical spreader or other approved method capable of maintaining a uniform rate of application and shall be thoroughly harrowed, raked or otherwise mixed with the soil to a depth of not less than 2 inches and brought to a smooth surface. The fertilizer and lime shall not be applied together. If the lime and fertilizer are applied dry, the lime shall precede the fertilizer and shall be worked thoroughly into the soil before the fertilizer is spread.
- B. Extreme care shall be taken by the Contractor so as not to introduce fertilizer into the Pond or other waterways. Over-fertilization is not allowed.

3.07 SOWING SEED

- A. Grass seed of the required mixture and quality shall be spread by a mechanical seeder or other method which sow the seed uniformly at the required rate over the entire area to be seeded. The mechanical seeder shall be capable of being operated to avoid the growth of grass in rows and shall be so operated. After seeding, all areas shall be lightly raked by hand to mix the seed and topsoil. Seeded areas shall be rolled with a lawn roller not to exceed one hundred and twenty pounds (120 lbs.) in weight.

3.08 TEMPORARY EROSION CONTROL BLANKET INSTALLATION

- A. Protection of seeded areas shall be either through the installation of temporary biodegradable erosion control blankets or the application of mulch. Temporary erosion control blankets may be necessary if mulch is found to be ineffective in controlling erosion prior to the establishment of vegetation and shall be required on slopes of greater than 4:1.
- B. Temporary erosion control blankets shall be installed as per the manufacturer's instructions and recommendations. In general, such blankets are installed down (perpendicular to) slopes and are anchored in a trench at the top of the slope.
- C. All temporary erosion control blankets must be installed per the manufacturer's instructions and anchored to the ground by the use of stakes, as per the manufacturer's instructions and recommendations. Stakes must be long enough to achieve adequate anchorage.

3.09 MULCHING

- A. Protection of seeded areas shall be either through the application of approved mulch or the installation of temporary biodegradable erosion control blankets.
- B. Areas which have been seeded shall be mulched immediately following seeding. Areas which cannot be seeded within the specified seeding periods shall be mulched to provide temporary protection to the soil surface. Mulch shall be spread with a mulch blower or by hand. Mulch shall be immediately anchored with a mulch-anchoring tool (operated perpendicular to the contour) or by tracking with a tracked vehicle (operated parallel to the contour). Applying mulch simultaneous to seeding in a hydroseeding operation is acceptable. Straw mulch shall be applied to seeded areas at a minimum rate of 10 pounds per 100 square feet. The rate shall be doubled for unseeded areas.

3.10 CARE AFTER SEEDING AND PLANTING

- A. The Contractor shall be responsible for the watering, mowing, weeding, and other proper care of the seeded and vegetated areas until establishment and initial acceptance by the Department. The means and methods of care shall meet the minimums specified below. Additional efforts by the Contractor shall be performed as necessary at no additional cost to the Department.
- B. The Contractor shall furnish all labor, material and equipment required to complete the post-installation care work described herein, in strict accordance with the drawings and/or terms of the Contract.
- C. Watering: The Contractor shall supply adequate water to the site. The single-most important factor in the successful establishment of seeded areas is adequate, regular watering. Watering should begin immediately after installation. The amount of water required will vary depending upon season, weather, temperature, wind, slope, and grass variety. The Contractor shall designate the party responsible to ensure adequate water supply and application.

1. First Week: The contractor shall provide all labor and arrange for all watering necessary for establishment of seeded areas. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of at least 4 inches (100 mm). Watering should be done during the heat of the day to prevent wilting.
2. Second and Subsequent Weeks: The contractor shall water the seeded areas as required to maintain adequate moisture in the upper 4 inches (100 mm) of soil, necessary for the promotion of deep root growth.

3.11 ACCEPTANCE

A. Initial Acceptance

1. Seeded and vegetated areas shall show no gaps or dead spots at initial acceptance. The grass growth shall be widespread and robust with vigorous, healthy root growth.
2. The Department will not declare initial acceptance of seeded areas until such time as areas where regular grass seed has been applied has achieved a minimum of five (5) inches height, been cut to 3.5 inches, regrown to 5 inches, and been cut again to 3.5 inches.
3. The Contractor is responsible for ensuring that a satisfactory firm stand of grass is obtained and shall do all necessary reloaming, refertilizing and reseeding and make all necessary repairs, regardless of cause of damage, to this effect until initial acceptance of the work.

B. Final Acceptance

1. At the end of the one-year maintenance period, final acceptance by the Department will occur only if seeded and vegetated areas show no gaps or dead spots. The grass growth shall be widespread and robust with vigorous, healthy root growth.

3.12 MAINTENANCE

- A. The Maintenance Period shall begin after initial acceptance by the Department of the seeded, sodded, and vegetated areas.
- B. The Contractor shall be responsible for the watering, mowing, weeding, and other proper care of the seeded, sodded, and vegetated areas until final acceptance by the Department.
- C. The Contractor shall be responsible for maintenance for a minimum of one year from initial acceptance by the Department of completed landscape items or until establishment of the seeded area is demonstrated and approved by the Department, whichever is longer. The Contractor's maintenance program must satisfy the conditions of project permits. If significant repairs are necessary during the maintenance period, the one-year period will re-start.

3.13 REPAIR

The Contractor shall be responsible for repair of all damage to and erosion of the loamed, seeded and planted areas until final acceptance by the Department and throughout the maintenance period. Repair responsibilities shall include, but not be limited to, repair of eroded areas, reseeding, replanting, replacement of erosion control measures, regrading, etc. The intent is to facilitate the establishment of an adequate ground cover over all disturbed areas on the site.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement of loam from off-site shall be on a basis of the actual, in-place dry weight of the acceptable loam material successfully placed to a minimum depth as shown on the Contract Plans and directed in the Specifications, in Tons. Certified weight slips shall be submitted to the Resident Engineer for approval and no payment shall be made for quantities not approved and countersigned by the Resident Engineer. The Contractor shall, at no additional cost to the Department, provide the results of an independent moisture test for each load of loam brought to the site and the weight of water shall be subtracted from the total net weight of soil to establish the dry weight of loam delivered.
- B. Measurement of planting of shrubs and trees shall be on a lump sum basis installed complete through final acceptance, and shall include a 1-year warranty for vegetative establishment.
- C. Measurement of Seeding shall be on a basis of the actual area seeded with an approved General Seed mix at the appropriate application rate, in Square Yards. Measurement shall be made by taping the planar extent of the area, or by other methods mutually acceptable to the Department and the Contractor. No separate measurement shall be made for mulching or re-seeding.
- D. Measurement of Erosion Control Materials shall be on a basis of the actual area successfully installed temporary biodegradable Erosion Control Blanket, as directed by the Department, in Square Yards. Measurement shall be made by taping the planar extent of the area, or by other methods mutually acceptable to the Department. No separate measurement shall be made for anchoring.

4.02 PAYMENT

- A. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including the provision of and all handling effort, sorting, preparation, placement, grading, fertilizing, liming, mixing and other work associated with furnishing and successful placement of Off-Site Loam shall be paid for at the applicable unit price for Item 02930.01 stated on the Form for Bid.
- B. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including the provision of and all handling effort, planting, fertilizing, mulching and other work associated with furnishing and successful planting of shrubs and trees shall be paid for at the applicable lump sum price for Item 02930.02 stated on the Form for Bid.
- C. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including the provision of seed and erosion control material and all handling effort, preparation, placement, rolling, mulching, watering & maintenance until final acceptance and the end of the maintenance period, and other work associated with Seeding shall be paid for at the applicable unit price for Item 02930.03 stated on the Form for Bid. No payment shall be made until initial acceptance of the seeded area by the Department, as described herein and no payment shall be made for re-seeding.

- D. Payment for the scope of work specified herein, including all labor, materials, equipment and incidentals, including the provision of materials, handling, transport, preparation, placement, and anchoring of temporary biodegradable Erosion Control Blankets shall be paid for at the applicable unit price for Item 02930.04 stated on the Form for Bid.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
02930.01	Off-Site Loam	Ton
02930.02	Shrubs and Trees	Lump Sum
02930.03	General Seeding	Square Yard
02930.04	Erosion Control Materials	Square Yard

END OF SECTION

**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

DIVISION 3 – CONCRETE

SECTION 03300
REINFORCED CAST-IN-PLACE CONCRETE

PART 1. GENERAL

1.01 DESCRIPTION

- A. The work of this section includes furnishing and placing low permeability cement concrete composed of specified proportions of cement, aggregates, and water mixed to form a homogeneous composition and consolidated in the work as indicated without segregation, under the Resident Engineer's inspection and approval.
- B. The work of this Section includes reinforced concrete for spillway floor, stop log support, and weir foundation.
- C. The Contractor's proposed concrete mix design(s) shall be submitted to the DCR's Materials Engineer, at DCR's Materials Laboratory at 164 Pond St. Stoneham, MA 02180. Also included in the work of this section is the furnishing and placement of reinforcing steel within the spillway floor, stop log support, and weir foundation.
- D. The work of this section includes all formwork, bracing, and temporary construction required to build reinforced cast-in-place concrete structures as shown on the Contract Drawings.

1.02 SCOPE OF WORK

- A. Concrete structures to be constructed under the Work of this Section shall include, but not be limited to: spillway floor, stop log support, and weir foundation. Cast-in-place concrete shall also be required at any other locations shown on the Contract Drawings. Concrete shall be a 5,000 pound per square inch (psi) mix unless otherwise noted. Reinforcing steel shall be uncoated Grade 60 bars unless otherwise noted.
- B. Other reinforced concrete structures may be included as incidental to other Pay Items of the work. These structures shall be constructed as per this Section but paid for under other Items.

1.03 EXISTING CONDITIONS

- A. The Contractor's attention is drawn to the location of the proposed and existing concrete structures and the attendant issues regarding access to the work. The Contractor should note that concrete trucks and equipment must traverse gravel pathways to access the project location.
- B. The Contractor's attention is further drawn to the sequencing suggestions of the Contract as provided in other Sections and on the Contract Drawings.

1.04 QUALITY CONTROL

- A. The Contractor shall be required to engage, at his own expense, an independent testing agency to perform all quality control tests as per Section 03305 of the Technical Specifications.

1.05 REFERENCES

- A. ACI 211.1-91 - Standard Practice for Selecting Proportions for Normal Heavyweight, and Mass Concrete
- B. ACI-213R-14 – Guide for Structural Aggregate Lightweight Concrete
- C. ACI 301-05 - Standard Specifications for Structural Concrete
- D. ACI 304.2R-96 - Placing Concrete by Pumping Methods
- E. ACI 305R-99 - Hot Weather Concreting
- F. ACI 306.1-90 - Standard Specification for Cold Weather Concreting
- G. ACI 308R-01 - Guide to Curing Concrete
- H. ACI 308.1-98 - Standard Specification for Curing Concrete
- I. ACI 309R-05 - Guide for Consolidation of Concrete
- J. ACI 318-08 - Building Code Requirements for Structural Concrete and Commentary
- K. ACI 347-04 - Guide to Formwork for Concrete
- L. ACI 350-06 - Code Requirements for Environmental Engineering Concrete Structures
- M. ASTM A82M-07 - Specification for Steel Wire, Plain, for Concrete Reinforcement
- N. ASTM A185M-07 - Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
- O. ASTM A615/A615M-07 - Specification for Deformed and Plain Billet - Steel Bars for Concrete Reinforcement
- P. ASTM A675/A675M-03e1 - Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties
- Q. ASTM C33-07 - Specification for Concrete Aggregates
- R. ASTM C94/C94M-07 - Specification for Ready Mixed Concrete
- S. ASTM C150-07 - Specification for Portland Cement
- T. ASTM C260-06 - Specification for Air Entraining Admixtures for Concrete
- U. ASTM C309-98a - Specification for Liquid Membrane-Forming Compounds for Curing Concrete
- V. ASTM C494/C494M-99a - Specification for Chemical Admixtures for Concrete
- W. ASTM C595-08 - Specification for Blended Hydraulic Cements
- X. ASTM C618-05 - Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
- Y. ASTM C881/C881M-02 - Specification for Epoxy-Resin-Base Bonding Systems for Concrete

- Z. ASTM C989-06 - Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
- AA. ASTM C1240-05 - Specification for Silica Fume Used in Cementitious Mixtures
- BB. ASTM C1602-04 - Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
- CC. Concrete Reinforcing Steel Institute - Manual of Standard Practice
- DD. Concrete Reinforcing Steel Institute - Placing Reinforcing Bars

1.06 RELATED SECTIONS

- A. The following is a list of related work items that shall be performed or furnished under other sections of these specifications as indicated:
 1. Sedimentation and Erosion Control - See Section 01560.
 2. Temporary Water Control – See Section 01565
 3. Demolition – See Section 02065.
 4. Earthwork - See Section 02200.
 5. Concrete Testing – See Section 03305.

1.07 SUBMITTALS

At least two (2) weeks prior to the Work of this Section, the Contractor shall submit, both to the Resident Engineer and directly to the DCR's Materials Laboratory in Stoneham, MA, the following information:

- A. Reinforcing Steel
 1. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel, bending and cutting schedules, and supporting and spacing devices.
 2. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 3. Submit certified copies of mill test report of reinforcement materials analysis.
- B. Concrete
 1. Name and address of Contractor's testing laboratory firm. Accreditation and a brief description of prior work, which is similar to that proposed for this project. Provide prior work owner's full name, address and telephone number. ASTM E329 will also be used as one of the bases for evaluating the testing laboratory firm.
 2. Concrete mix design, material test results, and results of strength tests from the trial concrete mixes by the Concrete supplier.
 3. Manufacturer's cement mill test reports for each shipment of cement, regardless of quantity, prior to incorporation into the work.
 4. Product data for proprietary materials and items, including forming accessories, admixtures, curing compounds, non-shrink non-metallic grout and others requested by the Department.
 5. Field Test Results from Contractor's Independent Testing Consultant within one (1) day of testing. Friday test results may be submitted the next work day.
 6. Independent Laboratory Test Results as per Section 03305 of the Specifications.

C. General Procedures

1. Two (2) weeks prior to the start of any work involving concrete, the Contractor shall submit a schedule of labor, equipment and methods of concrete placement, curing and protection for approval. As part of this submittal include means and methods of delivering concrete to placement areas.
2. Two (2) weeks prior to the start of any work involving concrete, the Contractor shall submit the name and qualifications of the independent testing company engaged to perform field and laboratory testing of the concrete.
3. Two (2) weeks prior to the start of any work involving concrete, the Contractor shall submit the proposed concrete mix design to both DCR's Resident Engineer and Materials Engineer.
4. Two (2) weeks prior to the start of any work involving concrete submit the results of test pits along with design changes or other impacts on the weir footings.

1.08 QUALITY ASSURANCE

A. Reinforcing Steel

1. Do not fabricate reinforcement until shop drawings have been approved by the Department.
2. Perform Work in accordance with CRSI - Manual of Standard Practice, ACI 301, ACI SP-66 and ACI 318. Where contradictions exist, the more stringent code shall govern.
3. Maintain one copy of each document on site.
4. Replace all reinforcement with bends and kinks not shown on the approved fabrication shop drawings. Remove from job site all such reinforcement and replace with new fabricated steel. Field bending of reinforcement is prohibited, without prior written approval of the Department.

B. Concrete

1. Perform Work in accordance with ACI 301.
2. Maintain one copy of document on site.
3. Acquire cement and aggregate from one source for Work.
4. Materials and installed work may require testing and retesting at any time during progress of work. Retesting of rejected materials for installed work shall be done at the Contractor's expense.
5. Do not use admixtures which will cause accelerated setting of the cement in concrete. Use of calcium chloride will not be permitted.
6. Employ an independent accredited testing laboratory, acceptable to the Department.
7. Acceptance of completed concrete work requires conformance with dimensional tolerances, appearance, and strength as specified and indicated.

PART 2. PRODUCTS

2.01 CONCRETE

- A. Ready-mixed, air-entrained, low-permeability concrete secured from a batch or mixing plant concrete in accordance with ASTM C94. Minimum 28-day compressive strength of concrete shall be as specified on the Drawings or 5,000 psi, whichever is greater. Minimum 7-day compressive strength shall be 3,500 psi.
- B. Cement concrete mix design shall be submitted for review.
- C. The low-permeability cement concrete shall be proportioned per ACI 211.1. The low-permeability cement concrete shall conform to the following requirements of ACI 350R as part of the mix design:

Minimum 28-day compressive strength	5,000 psi
Maximum water/cement ratio	0.45
Maximum aggregate size	¾ inch
Maximum air content	6.0 percent(±1.5 percent)

- D. The following table of minimum cement contents for various minimum 28-day compressive strengths (6"x12" Cylinders) are based on air entrained and water reduced mixtures. The use of approved additives other than air entraining and water reducing admixtures shall not affect the minimum cement content.

The Contractor shall submit to the Department, for approval, his/her proposed concrete supplier, source, and type of materials, with current ASTM C-33 aggregate test data, and concrete mix designs by an approved laboratory complete with trial mix data. Trial mixtures will be designed and tested at the maximum slump and air content for each designated class of concrete.

Minimum cement contents may be supplemented by the addition of Slag (GGBFS) or Fly Ash in percentages by weight as stipulated below.

Trial mix 28-day strengths shall be 1,200 psi over required F'c for mixes 4,000 psi and above.

Minimum 28-Day Compressive Strength	Minimum Cement Pounds per C.Y. Maximum Size Coarse Aggregate			In place Slump (inches)
PSI	1 ½"	¾"	⅜"	
2000	376	423	470	3 to 5
2500	423	470	517	3 to 5
3000	470	517	564	3 to 5
3500	517	564	611	3 to 5
4000	564	611	658	3 to 5
4500	611	658	705	3 to 5
5000	658	705	752	3 to 5
Percent Air Content	5.0	6.0	7.5	(all air content ±1.5 percent)

Cement shall be Type II or Type I/II normal Portland cement and admixtures. The cement shall conform to the requirements of ASTM C150 for Portland cement, and shall be either Type II or Type I/II for general use or Type III when high early strength is required. High early strength may also be obtained by use of a non-chloride set accelerating admixture as approved by the Department. The use of type III Portland cement will not be allowed in concrete exposed to seawater, sewerage, or soils containing chlorides. However, only one type of cement shall be used in a single placement. Cement shall be fresh, sieved, and free of lumps.

Cement shall not exhibit a flash set or cause an abnormal initial rise of temperature upon engaging with water, and it shall maintain its full plasticity and fluidity during the period required for placing the concrete.

Cement having a uniform color shall be used in all exposed concrete.

In the event that the proposed cement is not low alkali, the producer shall submit evidence that the proposed aggregate is not reactive as per ASTM C1260 or AASHTO T303.

- E. Fly ash – Class F may be substituted for cement up to a maximum of 30% by weight of the design cement content. Fly ash – Class F or equivalent cementous produce shall conform to the requirements of AASHTO M 295 or ASTM C618 – Type F. Fly ash may be used to mitigate Alkali-Silica Reactivity (ASR), however fly ash shall replace no more than 30% by weight of the design cement content and any additional fly ash will be considered fine aggregate. Slag (GGBFS) meeting ASTM C989, Latest Edition, Grade 100 or 120, may be used to replace no more than 40% by weight of the design cement content. Either fly ash or slag may be used, not both.
- F. Cement grout and admixtures for use to fill minor depressions below concrete structures (dental concrete) shall be proposed by the Contractor and will be subject to the Department's review and comment prior to approval for use in the work.
- G. Water shall not exhibit any deleterious effects to the required properties of the concrete. Water shall be clean, clear and free from deleterious amounts of oil, acid, alkali, salts and organic matter and conform to ASTM C94, as well as the following requirements:
 - 1. Acidity 0.1 Normal NaOH 2 c.c. max.*
 - 2. Alkalinity 0.1 Normal HCl 10 c.c. max.*
*(to neutralize 200 c.c. sample)
 - 3. Total Solids:
 - a. Organic 0.01% max.
 - b. Inorganic 0.10% max.
 - c. Sulphate 0.05% max.

Testing of the water by the Contractor shall be in accordance with AASHTO T26 and the test results shall be submitted to the Department for approval.

H. Aggregates:

1. Fine Aggregate: Fine aggregate shall consist of natural sand, manufactured sand, or a combination thereof, conforming to the requirements of ASTM C33, Specifications for "Concrete Aggregates", latest edition and the following requirements:

SIEVE NO.	PERCENT PASSING
4	95 to 100
8	80 to 100
16	50 to 85
30	24 to 60
50	5 to 30
100	0 to 10

The fineness modulus of the fine aggregate shall be 2.80 plus or minus 0.20 and the percent passing the #200 sieve shall not exceed 2 percent by dry sieving and 3 percent by wet sieving.

2. Coarse Aggregate: Coarse Aggregate shall consist of washed gravel, crushed gravel, crushed stone, or a combination thereof conforming to ASTM C33, Specifications for "Concrete Aggregates" latest edition and the following:

PERCENT PASSING				
SIEVE	NO. 67 (¾")	NO. 57 (1")	NO. 8 (⅜")	NO. 467 (1 ½ ")
1½ inch	--	100	--	100
1 inch	100	95 to 100	--	--
¾ inch	90 to 100	--	--	35 to 70
½ inch	--	25 to 60	100	--
⅜ inch	20 to 55	--	85 to 100	10 to 30
No. 4	0 to 10	0 to 10	10 to 30	0 to 5
No. 8	0 to 5	0 to 5	0 to 10	--
No. 16	--	--	0 to 5	--
No. 50	--	--	--	--

Aggregates for lightweight concrete shall conform to ASTM C330, Specifications for "Lightweight Aggregates for Structural Concrete."

Select aggregate which is not considered susceptible to Alkali-Silica Reactivity (ASR), in accordance with ASTM C295.

3. Admixtures: Air entraining and water reducing admixtures will be used in all concrete as specified. They shall be used in strict accordance with the manufacturer's recommendations and added at the batch plant. Admixtures shall be ready-to-use liquid material, and contain no calcium chloride. Set retarding admixtures will be used at the discretion of the Department when concrete temperatures exceed 80 degrees. The use of high range water reducing admixtures will be allowed only with prior approval of the Department when circumstances dictate its necessity to facilitate placement.

Air Entraining Admixtures: Shall conform to ASTM C260 Specifications for "Air Entraining Admixtures for Concrete." Testing for air entrainment shall be as per ASTM C231.

Water Reducing, Retarding, Set Accelerating and High Range Admixtures: Shall conform to ASTM C494 Specifications for "Chemical Admixtures for Concrete."

Curing Compounds shall conform to ASTM C309

The use of mid and high range water reducing admixtures will be allowed only with prior approval of the Department when circumstances dictate its necessity to facilitate placement.

2.02 ACCESSORIES

- A. Bonding Agent. Two component modified epoxy resin.
- B. Epoxy Adhesive. Two component epoxy equivalent to HILTI HY150 or equal. Fast setting adhesive shall NOT be used without express permission.
- C. Cloth, Burlap, Jute or Kenaf. CCC-C-476C
- D. Non-Shrink, Non-Metallic Grout. Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 5000 psi in 48 hours, with zero percent volume change for plastic state in accordance with ASTM C827, such as Five Star Grout by Five Star Products, Upcon 262 by Emhart Chemical Group or approved equivalent.
- E. Surface Finishing / Patching Cement. Premixed fast setting non shrink patching cement with integral bonding agent, such are ConproSet or approved equivalent.
- F. Fill-Side Waterproofing. A bituminous based waterproofing product meeting the Specifications of the Massachusetts Highway Department.
- G. Joint Filler and Slab Perimeters. J-Joint polyethylene foam with tear off strip for sealant or equivalent; joint filler to be slab thickness in depth less 0.5 inch for sealant.
- H. Expansion Joint Filler. Self expanding cork by W.R. Meadows or W.R. Grace or equivalent, size as indicated on the Drawings.

2.03 STEEL CONCRETE REINFORCEMENT

- A. Uncoated Reinforcing Steel Bars: ASTM A615, 60 ksi yield Grade 60 deformed billet steel, unless otherwise indicated.
- B. Tie Wire: Mild steel or annealed iron, minimum 16 gauge.
- C. Splice Devices: Sleeve or coupler type, sized to develop minimum 125 percent of bar yield strength.
- D. Supports: Provide supports, such as chairs, bolsters, spacers, blocks, hangers, or other devices to support and position reinforcement, of adequate strength and accepted design to prevent displacement of reinforcement. Supports of any type coming in contact with form work shall be plastic or stainless steel.
- E. General. After bar list and shop drawings have been accepted, fabricate each unit of reinforcement to conform to the type, shape, and size indicated on the accepted bar list and shop drawings.
- F. Cutting and Bending. Perform cutting and bending of reinforcing bars before shipment to the site in manner consistent with ASTM and specification CRSI Manual of Practice. Field bend cold.

- G. Dowels: Dowels through construction joints, if any, shall be considered a part of the work of this section. These shall be cast monolithically into the concrete and not drilled in after the concrete has been placed. These dowels shall be deformed bars, sized as shown, conforming to ASTM A615, Grade 60 unless otherwise indicated. Dowel shall be No. 6 bars unless otherwise indicated.

2.04 DOWEL BAR SPLICERS

- A. Thread bars in shop only.
- B. Provide plastic plugs in female end at form.
- C. Develop 125 percent of yield strength of specified bar size across joint.
- D. Acceptable Manufacturers: Richmond DB-SAE Splicer System, Lenton Form Saver or Dayton Superior dowel bar replacement system or equivalent.
- E. Submit product data with strength tests.

2.05 MECHANICAL BAR SPLICERS

- A. Develop 125 percent of yield strength of bar across mechanical splice.
- B. Use metal filled sleeve type: Richmond DB-SAE Splicer Systems, Dayton Superior D-250 Bar Lock Coupler or equivalent.

2.06 CONCRETE CLASS

- A. Reinforced concrete sections greater than 10 inches thick: Class A
- B. Reinforced concrete sections equal to or less than 10 inches thick: Class B
- C. Sand/Cement Slurry: Class A without Coarse Aggregate

2.07 FORM MATERIALS AND ACCESSORIES

- A. Plywood Forms:
 - 1. Material: Material shall not be reactive with concrete and shall provide a finish equivalent in smoothness and appearance to plywood conforming to PS-1, Exterior Type Grade B-B. Each panel shall be labeled with grade trademark of APA/EWA.
 - 2. Provide forms which will not deflect beyond finish specified tolerances or indicated on the drawings.
- B. Prefabricated Forms
 - 1. Preformed Steel Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
 - 2. Form Liners: Smooth, durable, grainless and non-staining hardboard, unless otherwise shown on Drawings.
 - 3. Framing, Studding and Bracing: Stud or No. 3 structural light framing grade.
- C. Accessories
 - 1. Form Ties: Provide ties fitted with devices that will form cone shape holes in the concrete surface not less than $\frac{3}{8}$ inch interior diameter or more than $1 \frac{1}{4}$ inch exterior surface

diameter and at least 1½ inches deep such that the portion of the concrete tie remaining in the concrete will be at least 1½ inches back from the concrete surface.

2. Spreaders: Standard, non-corrosive metal form clamp assembly, of type acting as spreaders and leaving no metal within 1 inch of concrete face. Wire ties, wood spreaders or through bolts are not permitted.
3. Form Anchors and Hangers: Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member. Penetration of structural steel members is not permitted.
4. Form Release Agent: Colorless mineral oil which will not stain concrete or absorb moisture.
5. Corners: ¾ inch x ¾ inch triangular fillet type, milled clear straight-grain pine, surfaced each side, or extruded vinyl type, with or without nail flange to form all exposed concrete wall edges.
6. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.

2.08 BACKFILL

- A. Backfill material shall be as shown on the drawings and conform with the material specifications in Section 02200 – Earthwork.

PART 3. EXECUTION

3.01 METHODS OF PREPARATION AND DELIVERY

See ASTM C94 - Standard Specification for Ready-Mixed Concrete

3.02 CONSTRUCTION METHODS

A. General

1. Reinforced concrete structures shall be constructed to the dimensions and design indicated on the Contract Drawing Details, to the lines and grade shown and as directed by the Resident Engineer, with reinforcement as required, and where necessary, at the direction of the Resident Engineer.
2. The work under this section includes setting all reinforcement and inserts furnished under this specification section to be embedded in cement concrete including all water-stops and dowels. The concrete after setting and finishing shall be true to required dimensions and shall be of high quality and exhibit an approved finish and workmanship.
3. The Contractor shall present mix designs for the specified class of concrete. Each of the laboratory design mixes shall be varied as directed by the Department until a mix has been produced that meets the requirements of these Technical Specifications and which receives the written approval of the Department. The approved mix design shall not be varied for the remainder of the job unless such change is directed by the Department.
4. The Contractor shall provide and maintain all necessary equipment for the control of surface, groundwater and seepage within the limits of new concrete areas in order to permit assembly of reinforcement (and related appurtenances), and placement of concrete to be conducted in the dry.

B. Forms

Approved centers and forms shall be provided by the Contractor. No extra compensation for false work will be allowed, such work being considered a part of the form work. False work shall be set to give the structural sizes indicated on the Plans or as specified, plus allowance for shrinkage or settlement. Forms, except as hereinafter specified, shall be made of planed lumber or form plywood and shall conform to the design of the work.

Inserts, anchors and support systems shall be installed by the Contractor, including reinforcing steel, water-stops, and dowels and such similar items that are required to be incorporated into the concrete construction. It is the responsibility of the Contractor to insure that all inserts are accurately installed and securely held in place immediately prior to placing the concrete, and to insure that these devices are inspected and approved by the Resident Engineer at least 24 hours before placing concrete. Concrete placed without such approval of the Resident Engineer may be rejected and removed at no additional cost to the Department.

All forms shall be cleaned and repaired as required and oiled prior to each placement. Defective forms with unplugged holes or other defects shall not be used.

The sheathing shall be joined tightly to prevent leakage from the mix and it shall be of sufficient strength to hold the concrete without bulging between supports. Forms shall be properly braced and tied so as to maintain correct dimensions. Bolts, rods or approved form ties shall be used for internal ties. Wire ties will not be permitted except when directed or where concrete is not exposed to view.

Prior to placing concrete in the forms all foreign matter, lumber and wire ends shall be removed.

The forms shall be true to the lines, satisfactorily supported and firmly secured. They shall remain in place as long as directed and shall be replaced by new forms if they lose their proper dimensions or shape.

All forms shall be treated with non-staining mineral oil or other approved release agent before placing the concrete. The release agent shall be applied before the reinforcing steel is placed. Any material which will adhere to or discolor the concrete shall not be used.

Use steel, plywood or lined board forms as forms for "Smooth Finish" Concrete. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish. Install form lining with close-fitting square joints between separate sheets without springing into place. Use full size sheets of form lines and plywood wherever possible. Tape joints to prevent protrusions in concrete. Use care in forming and stripping wood forms to protect corners and edges. Level and continue horizontal joints. Keep wood forms wet until stripped.

Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris and waste material. Clean forms and surfaces against which concrete is to be placed. Remove chips, saw dust and other debris. Thoroughly blow out forms with compressed air just before concrete is placed.

C. Handling and Placing Concrete

Within five (5) days from Notice to Proceed, the Contractor shall submit a schedule of labor, equipment and methods of concrete placement, curing and protection for approval. As part of this submittal, include means and methods of delivering concrete to placement areas. Failure to submit aforementioned schedule or demonstrate operation of equipment at the Resident Engineer's request may be just cause for cancellation of the schedule placement.

Aluminum shall not be used in any equipment where it would be in permanent or abrasive contact with fresh concrete.

Whenever possible, place concrete during normal working hours. When concrete placement schedules require concrete placement at times other than normal working hours, notify the Department and its Resident Engineer of special conditions at least 48 hours in advance of placement. Notify Resident Engineer minimum 48 hours prior to commencement of concrete placement operations. Include within this notification, the quantity of concrete, method and placement location, frequency of trucks, ordered slump and time of initial delivery.

Provide a delivery batch ticket to the Resident Engineer, written in ink or computer printed, with each batch delivered to the discharge location, and as specified in ASTM C94 and in addition, state the following:

1. Load number, truck number and driver's name
2. Volume of Concrete (Cubic Yards)
3. Mix designation number
4. Actual batch weights of cement, fine and coarse aggregate, admixtures, and water
5. Time batched
6. Signature of ready-mix representative

Failure to provide this information at delivery will be considered cause for rejection of the load.

Additional information which may be required at the discretion of the Resident Engineer is as follows:

1. Compression strength of concrete
2. Reading of revolution counter at first addition of water
3. Type, brand and amount of cement
4. Type, brand and amount of admixture
5. Information necessary to calculate total mixing water
6. Maximum size of aggregate

D. Transportation

Order concrete from batching plant so that trucks arrive at discharge locations when the concrete is required. Avoid excessive mixing of concrete or delays in placing successive layers of concrete in forms. The concrete supplier shall deliver concrete to discharge locations in watertight agitator or mixer trucks without altering the specified properties of water-cement ratio, slump, air-entrainment, temperature and homogeneity. Deliver concrete in order that the contractor can accept delivery within

90 minutes after batching or earlier during hot weather concreting as specified. Do not add retempering water, nor exceed the specified water-cement ratio. The Contractor or Resident Engineer shall reject concrete not conforming to specification, unsuitable for placement, exceeding time limitation restraints, and not having a complete delivery batch ticket.

The concrete shall be transported from the mixer and placed in the forms by a method which will permit handling concrete of the slump required without segregation. Buggies and wheelbarrows used for this purpose shall be equipped with pneumatic tires. Chutes shall be metal or metal lined, inclined so as to have a slope of between 2 and 3 horizontally to 1 vertically. Long chutes shall be provided with reversed flow or re-mixing hoppers in order to correct for segregation.

Transportation of concrete by pumping is considered a suitable means for delivering concrete. The equipment shall be suitable in kind and adequate in capacity for the work. The equipment and operation shall conform to the requirements of the latest American Concrete Institute (ACI) Specifications for Masonry, Placing Concrete by Pumping. The operation shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pump-line shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients.

At the conclusion of placement, the entire equipment shall be thoroughly cleaned and all waste and debris shall be legally disposed of off-site in accordance with Federal, State and Local laws, regulations and ordinances. The number and lengths of flexible lines used for pumping concrete shall be kept to the minimum required for proper distribution. Transition sections for reducing the diameter of the lines shall be of slick-line material and shall be as long as possible.

E. Placing Concrete

Place concrete in accordance with ACI 301. Deposit concrete at its final position in formwork, to preserve slump, air content, and homogeneity in accordance with ACI 304, and as specified herein. Clean out forms of all soil and debris prior to placement. Wet forms and existing concrete but remove standing water. Concrete shall be properly distributed in the forms by shoveling. The forms shall be filled in horizontal layers 1½ to 2 feet thick maximum, with each layer extending completely across the forms. Do not allow concrete to fall freely in forms to cause segregation. Do not move concrete horizontally more than four feet from the point of discharge. Space points of deposit not more than eight feet apart. Care shall be taken to avoid splashing the forms and reinforcing above the level of the mix. Do not interrupt successive placement; do not permit cold joints to occur. Do not deposit partially hardened concrete in forms. Retempering of partially hardened concrete is prohibited. Remove all partially hardened concrete from site at no additional compensation

F. Consolidation

Consolidate concrete in accordance with ACI 309. Each layer shall be thoroughly consolidated by vibration. The face of the forms shall be carefully spaded to bring a dense mortar to the face, and produce a good finish.

All concrete, unless otherwise directed, shall be compacted by means of approved mechanical vibrators operated within the mass of the concrete. The Contractor shall provide approved methods of vibration to fully consolidate the mix. Vibrators shall be of internal type, of standard make and approved capacity, and shall be capable of transmitting vibrations to the concrete at frequencies of not less than 4500 impulses per minute.

Vibration of forms or reinforcing shall not be permitted except where internal vibration is not practical and then only with approval of the Resident Engineer for each specific application.

The vibrator shall be applied directly to the mass at the point and time of deposit and move throughout the mass continuously from point to point in the mix using care to avoid hitting the forms, over-vibration, causing segregation, over-finished surface and excess water gain.

Vibrators of sufficient number and size shall be provided to obtain proper placing in accordance with the rate of deposit. At least one spare of each type vibrator required shall be on hand at all times.

Extreme care shall be taken to prevent penetrating or disturbing previously placed concrete which has become partially set.

G. Protection

Suitable precautions shall be taken to thoroughly protect the concrete from any damage by weather conditions or otherwise during and after placing.

1. Warm and Dry Weather. During warm or dry weather, and as directed all curing concrete shall be water-cured throughout the curing period.
2. Rainy Weather. During rainy weather all curing concrete shall be properly covered, as may be necessary to prevent damage. Sufficient approved material for covering shall be available at the site of the work for immediate use as may be needed.
3. Cold Weather. During cold weather all curing concrete shall be fully protected, by methods approved by the Department, until properly set and hardened to prevent damage. Cold weather concrete shall be protected at the required minimum temperature according to ACI 306, as outlined in Section 3.02 (J), specifically regarding the minimum number of days that temperature protection must be maintained.

H. Finishing

1. Formed Surfaces not exposed to view shall be finished to produce a surface within Class B tolerance throughout. Form ties shall be cut back from the face of the concrete and all voids and cavities shall be filled with a stiff mortar mix compatible with the bulk concrete.
2. Formed Surfaces exposed to view shall be finished to produce a surface within Class A tolerance throughout. Form ties shall be cut back from the face of the concrete and all voids and cavities shall be filled with a stiff patching / finishing mortar mix compatible with the bulk concrete and of the same color. All irregularities shall be removed to produce a smooth and uniform surface. Additional finishing may be done by rubbing with a No. 10 carborundum brick or other abrasive of equal quality. All finishing of concrete walls shall take place immediately after removal of formwork.
3. Horizontal Surfaces shall be finished as follows:
 - a. Floated Finish: After the concrete has been placed, consolidated, struck off and leveled, do not work the concrete further until ready for floating. Begin floating when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation. During or after the first floating, check planeness of surface with a 10-foot straightedge applied at not less than two different angles. Cut down all high spots and fill all low spots during this procedure to produce a surface within Class B tolerance throughout. Immediately refloat the slab to a uniform sandy texture.
 - b. Troweled Finish: First float-finish the surface as specified above, then power-trowel, and finally hand-trowel. With the first troweling after power floating, produce a smooth surface which is relatively free of defects but which may still show some trowel marks. Perform the final troweling when a ringing sound is produced as the trowel is moved over the surface. Thoroughly consolidate the surface by the

hand troweling operations. Produce a finished surface which is essentially free of trowel marks, uniform in texture and appearance, and plane to a Class A tolerance.

- c. Roughen Finish: At horizontal surfaces where concrete is placed on top of other concrete to create a monolithic structure, a roughened surface shall be provided by brooming or otherwise scarifying the surface following floating.

I. Curing

All concrete shall be cured according to the latest ACI Specifications (ACI 308 Standard Practice for curing concrete; ACI 301, ACI 305 or ACI 306 as applicable). Notify the Owner of curing method and period prior to concrete placement.

All concrete shall be kept fully saturated and protected against any drying action and rapid change in temperature, by the curing method specified herein only, for not less than 14 days after placing cement concrete.

Curing shall be accomplished by the method of water curing only. Membrane curing compounds shall not be used except in limited areas as approved by the Owner.

No vehicular traffic shall be permitted on the concrete during curing.

J. Removal of Forms

If necessary, the forms for any portion of the structure shall not be removed until the concrete is strong enough, as determined by the Resident Engineer, to avoid possible injury from such removal. Forms shall not be removed or disturbed without the prior approval of the Resident Engineer. Form supports shall be removed in such a manner as to permit the concrete to take the stresses due to its own weight uniformly and gradually.

The minimum compressive strength for the type of concrete prior to removing forms or loading the structure shall be not less than seventy-five (75) percent of the design strength as demonstrated by a concrete cylinder test. In no event shall forms be removed from concrete less than 3 days following placement.

Any defective work discovered after the forms have been removed shall be immediately removed and replaced. If the surface of the concrete is bulged, uneven or shown excessive voids or form joint marks which cannot be repaired satisfactorily, the entire section shall be removed and replaced. All repairs and renewals due to defective work shall be done at the expense of the Contractor.

K. Loading of Concrete Structures

All concrete structures (footings, slabs, tank walls, elevated slabs, roofs, foundations, etc.) shall not be loaded until the concrete has obtained sufficient strength to resist the loads imposed. Further, concrete structures or segments thereof shall not be loaded until the concrete obtains the following design strength.

Loading	Required Strength
Concrete loads from above	75%
Earth filled, backfilling	100%
Equipment Loads	100%

L. Concrete Construction during Cold Weather

All concrete construction during cold weather shall be performed in accordance with Section 03346 of the Specifications.

M. Concrete Construction during Hot and Dry Weather

All concrete construction during hot and dry weather shall be performed in accordance with Section 03346 of the Specifications.

3.03 PLACING, SUPPORTING AND SPLICING REINFORCING STEEL

- A. Reinforcing steel shall be clean and free of dirt, scale, paint, oil, grease and other foreign matter when placed in the work. Metal reinforcement coated with firmly bonded rust, mill scale, or a combination of both shall be considered satisfactory provided the minimum dimensions and weight of a hand wire-brushed test specimen are not less than the applicable specification requirement. Rust or mill scale which is difficult to remove by vigorous scrubbing with a wire brush shall be considered firmly bonded to the steel.
- B. Arrange and place reinforcement as shown on the diagrams, placement plans, and in accordance with the required tolerances. Concrete shall not be placed in any member until the reinforcement steel has been inspected and approved by the Resident Engineer.
- C. Support and secure reinforcement together as required in accordance with the following requirements:
 - 1. Prevent displacement, by construction loads or by the placing of concrete reinforcement and concrete, beyond the required tolerance.
 - 2. Tie or clip bars together securely; weld only where permitted by the Resident Engineer.
 - 3. Maximum spacing of bar supports: six feet.
- D. Minimum concrete protective covering shall be as shown on the Drawings unless otherwise noted or directed by the Department.
- E. Support reinforcing bars imposition by means of accepted spacers, chairs or hangers.
- F. Maintain the specified tolerances between reinforcement and the forms by means of stays, blocks, ties, hangers, or other accepted supports.
- G. Furnish reinforcing bars in full lengths to the extent practicable. Splices and laps will be permitted only where shown on the accepted shop drawings or as otherwise permitted by the Department. No splices will be permitted at points where the section does not provide a minimum distance of 2 inches between splices and the nearest adjacent bar or the surface of concrete. The bars shall be rigidly clamped or wired at all splices. Sheets of metal mesh shall overlap each other sufficiently to maintain uniform strength and shall be securely fastened at the ends of the edges. Splices made with mechanical connectors shall be as detailed on the Drawings or as permitted and shall develop at least 125% of the specified yield strength of the reinforcing bar being spliced. The minimum concrete cover over the reinforcing steel as shown on the Drawings shall be maintained at the mechanical splice.

3.04 TOLERANCES

- A. Maximum allowable deviations from dimensions, elevations, slopes and positions as indicated in the table below:

1. Variation from plumb:

- a. In the lines and surfaces of piers, walls, and in arises:
 - i. In any 10 feet of length: $\frac{1}{4}$ inch
 - ii. Maximum for the entire length: 1 inch
- b. For exposed corner of columns, control-joint grooves, and other conspicuous lines:
 - i. In any 20 feet of length: $\frac{1}{4}$ inch
 - ii. Maximum for the entire length: $\frac{1}{2}$ inch

2. Variation from the level or from the grades specified in the Contract Documents:

- a. In slab soffits, ceilings, beam soffits and in arises, measured before removal of supporting shores:
 - i. In any 10 feet of length: $\frac{1}{4}$ inch
 - ii. In any bay or in any 20 feet of length: $\frac{3}{8}$ inch
 - iii. Maximum for the entire length: $\frac{3}{4}$ inch

3. Footings:*

- a. Variations in dimensions in plan:
 - i. Minus: $\frac{1}{2}$ inch
 - ii. Plus: 2 inch
- b. Misplacement or eccentricity:
 - i. 2% of the footing width in the direction of misplacement but not more than: 2 inch
- c. Thickness:
 - i. Decrease in specified thickness: 5%
 - ii. Increase in specified thickness: No limit
- d. Elevation of top: $\frac{1}{4}$ inch

*Tolerances apply to concrete dimensions only, not to positioning of vertical reinforcing steel, dowels, or embedded items.

3.05 FAILURE TO MEET STRENGTH REQUIREMENTS

- A. The strength of the concrete in place will be considered substandard if any one of the following results occur: Note: A test is defined as the average of two cylinders
- 1. The arithmetic average of 28-day cylinder tests for any three (3) consecutive test results are less than the specified strength (f'_c).
 - 2. More than 10 percent of the 28-day cylinder tests have strengths less than the specified strength (f'_c).
 - 3. A compressive strength test result falls below the specified strength (f'_c) by more than 500 psi.

- B. Concrete which fails to meet the strength requirements as outlined above will be reviewed by the Resident Engineer. The Resident Engineer will determine whether the substandard concrete will be accepted, rejected or additional tests performed.
- C. When Substandard concrete occurs as defined in the above paragraphs A.1 and A.2, the Resident Engineer will require corrective measures to be taken immediately in order to increase the average of subsequent strength tests.
- D. When substandard concrete occurs as defined in the above paragraph A.3, the Resident Engineer may require cores drilled in the area of question in accordance with Specification 03305. If the core tests are inconclusive or impractical to obtain, load tests may be required and their results evaluated in accordance with ACI 318 Chapter 20. If the average of the three cores is less than 85% of the specified 28-day strength or if one core is less than 75% of the specified 28-day strength, then that portion of the structure shall be strengthened by a method proposed by the Contractor and no exceptions taken by the Resident Engineer or replaced by the Contractor at no additional cost to DCR.

3.06 DEFECTIVE CONCRETE

- A. Defective concrete is defined as concrete in place which does not conform to strength, shapes, alignments, appearances and/or elevation as shown on the drawings and/or presents faulty surface areas.
- B. Reinforcing steel size, quantity, strength, position, or arrangement at variance with the Drawings will be considered defective.
- C. Concrete which differs from the required dimensions or locations in such a manner as to reduce the strength will be considered defective.
- D. Concrete surfaces not finished or not cured in accordance with Section 03346 shall be classified as defective concrete.
- E. Formed surfaces larger or smaller than dimensional tolerances specified in this Division may be rejected. If the Resident Engineer permits the Contractor to correct the error, such correction shall be as directed and in such a manner as to maintain the strength, function and appearance of the structure.
- F. Concrete members cast in the wrong location may be rejected and shall be removed at no additional cost to DCR if the strength, appearance or function of the structure is adversely affected.
- G. Inaccurately formed surfaces exposed to view may be rejected and shall be repaired or removed and replaced at no additional cost to DCR.
- H. Concrete exposed to view with defects which adversely affect the appearance of the specified finish shall be repaired. Excessive honeycomb or embedded debris in concrete is not acceptable. If, in the opinion of the Resident Engineer, the defects cannot be repaired, the concrete may be accepted or rejected in accordance with the decision of the Engineer.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No measurement shall be made for cast-in-place reinforced concrete for the new spillway floor, stop log support, and weir foundation. No measurement of reinforcing bars or other incidental items shall be made. Backfill material shall be paid under Specification Section 02200 – Earthwork.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, testing, equipment, and incidentals and mobilization/demobilization costs for the furnishing, successful placement, and finishing of Cast-in-Place Reinforced Concrete for the spillway floor, stop log support, and weir foundation meeting the requirements of the Contract Plans and Specifications and including reinforcing steel and all incidentals, shall be paid for at the applicable Lump Sum prices for Item 03300.01, 03300.02, and 03300.03 stated on the Form for Bid.
- B. Payment for the scope of the work specified herein, including all labor, materials, testing, equipment, and incidentals and mobilization/demobilization costs for the furnishing, successful placement, and finishing of Cast-in-Place Reinforced Concrete for the spillway floor, stop log support, and weir foundation meeting the requirements of the Contract Plans and Specifications and including reinforcing steel and all incidentals, shall be paid for at the applicable unit rate prices for Item 03300.01, 03300.02 and 03300.03 stated on the Form for Bid.

Item No.	Payment Item	Unit
03300.01	Cast-In-Place Reinforced Concrete -Spillway floor	Lump Sum
03300.02	Cast-In-Place Reinforced Concrete -Stop Log Support	Lump Sum
03300.03	Cast-In-Place Reinforced Concrete -Weir Foundation	Lump Sum

END OF SECTION

SECTION 03305
CONCRETE TESTING

PART 1. GENERAL

1.01 DESCRIPTION

- A. This Section describes requirements for quality control testing for cement concrete used in the construction of cast-in-place concrete structures at the site. Testing shall be done both on site and in the laboratory on samples collected from the site.
- B. The Contractor shall engage a qualified, certified, and approved Independent Materials Testing Laboratory to perform all quality control testing for cement concrete placed under the work of this contract. The Independent Testing Laboratory shall conduct all on-site and laboratory testing.
- C. Supplemental quality control testing for cement concrete placed under the work of this contract will be performed by the DCR Materials Testing Laboratory. The DCR Materials Testing Laboratory is located at 164 Pond Street, Stoneham, MA 02180. The DCR shall provide results of the testing described herein to the Resident Engineer and the Contractor. Testing results from the DCR Materials Testing Laboratory shall be considered definitive and shall govern.
- D. The Contractor shall be responsible for any and all corrective measures necessary based on testing results obtained and provided by the Independent Testing Laboratory or the DCR Materials Laboratory.

1.02 SCOPE OF WORK

- A. The Scope of Work under this Section shall include all work, labor, materials, equipment, and other effort and expenses necessary to engage a qualified, certified, and approved Independent Materials Testing Laboratory to perform all quality control testing for cement concrete placed under the work of this contract. The work shall include all necessary field work, laboratory testing, and reporting by the Independent Testing Laboratory.
- B. The Scope of Work under this Section shall also include all work, labor, materials, equipment, and other effort and expenses necessary to facilitate the collection and testing of concrete samples by the DCR Materials Testing Laboratory. The DCR Materials Testing Laboratory will provide its own testing apparatus and sample cylinders. All other equipment and materials, including but not limited to a curing box, shall be provided by the Contractor. The Contractor and his concrete supplier shall cooperate in all ways with the DCR Materials Lab regarding the collection and testing of concrete samples. It shall be the sole responsibility of the Contractor to notify and coordinate with the DCR regarding concrete placement schedules. No concrete shall be placed if personnel from the DCR Material Lab cannot be present, unless approved in writing by DCR.

1.03 SECTION INCLUDES

- A. Concrete Testing

1.04 RELATED SECTIONS

- A. Section 01300 – Submittals
- B. Section 03300 - Cast-In-Place Concrete

1.05 REFERENCES

- A. ASTM C31/C31M-06 - Standard Practice for Making and Curing Concrete Test Specimens in the Field
- B. ASTM C39/C39M-05e1 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- C. ASTM C42/C42M-04 - Standard Test Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- D. ASTM C172-07a - Practice for Sampling Freshly Mixed Concrete
- E. ASTM C231-04 - Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- F. ASTM E329-07a - Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- G. ASTM C1602/C1602M-06 - Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
- H. ACI 301-05 - Standard Specifications for Structural Concrete
- I. ACI 350.1-01/350.1R-01 - Tightness Testing of Environmental Engineering Concrete Structures

1.06 QUALIFICATIONS

- A. Independent Testing Laboratory shall conform to concrete testing requirements of ASTM E329.
- B. Key personnel must be qualified and experienced in concrete quality assurance.
- C. Perform concrete field quality control testing with personnel certified as an ACI Concrete Field Testing Technician, Grade 1 according to the American Concrete Institute (ACI).

1.07 SUBMITTALS

- A. The Contractor shall be responsible for the submittals for review and acceptance by the Resident Engineer and DCR's Materials Laboratory at no additional cost to DCR. Submittals shall include Independent Testing Laboratory's qualifications, all testing reports, etc.
- B. Independent Testing Laboratory will submit one copy each of all test reports to each of the following: Resident Engineer, DCR's Material Laboratory, Contractor and concrete supplier.
- C. Independent Testing Laboratory will submit reports within 5 days of testing or inspection.
- D. Independent Testing Laboratory will telephone the Resident Engineer within 24 hours if tests indicate deficiencies.

1.08 QUALITY CONTROL

- A. The responsibility of the Resident Engineer includes the inspection of the test results provided by the Independent Testing Laboratory and the DCR Materials Laboratory for compliance with project specifications. Tests shall be conducted by the Contractor's Independent Testing Laboratory as required below and supplemented by DCR Materials Laboratory at the discretion of the Department.

- B. The Contractor shall be required to engage, at his own expense, a qualified independent testing agency to perform all required quality control tests. The independent testing agency is subject to approval by the Department. Testing by the Contractor's independent agency shall be considered the primary testing agency; however, in the event of conflict between results, the Department's Testing Lab results shall prevail.

PART 2. PRODUCTS

Not Used

PART 3. EXECUTION

3.01 CAST-IN-PLACE CONCRETE

- A. The Contractor shall notify the Independent Testing Laboratory and the DCR's Materials Testing Laboratory of proposed upcoming concrete placements as follows.
1. The Contractor shall notify the Testing Laboratory of specific placements a minimum of 24 hours in advance.
 2. The Contractor shall notify the DCR Materials Testing Laboratory of any request for additional sample collection and testing a minimum of 24 hours in advance. The DCR shall have the option to perform additional testing, at its discretion.
- B. Obtain one composite sample for each pour of each concrete mix exceeding 5 CY, but less than 25 CY, plus one set for each additional 50 CY or fraction thereof. Measurements shall be taken not less than once per day. Each composite sample shall consist of six (6) standard test cylinder samples (6" x 12").
- C. Perform compressive strength tests per ASTM C39; Test 2 cylinders at 7 days; 2 cylinders at 28 days. Hold one cylinder for later testing. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at age indicated. One average for lab cured specimens and a separate average for field cured specimens. Two remaining cylinders shall be retained until notified by the Department of approval for disposal.
- D. Perform one slump test at the point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change. If applicable, perform slump and air entrainment tests before addition of High Range Water Reducer (when the high range water reducer is added on site) and slump and air entrainment tests after addition of High Range Water Reducer (all concrete).
- E. Perform one air content test for each composite sample, but not less than one test for each day's pour of each concrete mix. Air content test shall be per ASTM C231, pressure method, for normal-weight concrete, and per ASTM C173, volumetric method, for structural lightweight concrete.
- F. Sample concrete for testing of air and slump at the discharge end of the truck. When concrete is pumped, concrete taken for test cylinders shall be at the discharge end of the pump hose. **All concrete sampled for testing shall be taken from the beginning of the concrete truck discharge. No concrete shall be placed until the testing is complete. All concrete sampled for casting of cylinders shall be taken from the middle third of the concrete truck discharge.**
- G. Perform Concrete Temperature testing per ASTM C1064; one test hourly when air temperature is 40° F and below and when 80° F and above, and one test for each composite sample.

- H. Perform Unit Weight testing per ASTM C567, fresh unit weight of lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
- I. Perform strength, slump and air entrainment tests at other times when directed by the Resident Engineer.
- J. Additional testing and sampling required as a result of deficient results or improper curing shall be paid for by the Contractor.
- K. Contractor shall provide and maintain an insulated, heated concrete cylinder curing box, 4 foot square minimum, with a min.-max. thermometer and maintain the temperature between 60°F and 80°F. Contractor to coordinate the location and specific details of the curing box with the Resident Engineer and Independent Testing Laboratory and Resident Engineer.
- L. Contractor shall provide access to the site at all times for the Independent Testing Laboratory Personnel.
- M. Test results shall be reported in writing to the Department, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.

3.02 ADDITIONAL TESTS

- A. Independent Testing Laboratory shall provide additional testing of in-place concrete as directed by Resident Engineer due to non-compliance or considered substandard. Additional tests may consist of non-destructive testing, cores drilled from the area in question or load tests. Costs of additional testing will be paid by the Contractor.
- B. When the concrete strength is substandard as defined in Specification 03300 Section 3.07 paragraph A, concrete core specimens shall be obtained and tested from the affected area.
 - 1. Three (3) cores shall be taken for each sample in which the strength requirements were not met. The drilled cores shall be obtained and tested in conformance with ASTM C 42 "Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete".
- C. Field cured cylinders may be cast and tested by the Independent Testing Laboratory at the request of the Contractor. The costs of these tests shall be borne by the Contractor. If the field cured cylinders are cast and tested prior to 28-days to determine the in-place concrete strength in order to facilitate an accelerated schedule for subsequent concrete placements, or backfilling the following criteria must be met:
 - 1. The Contractor shall notify the Resident Engineer and Independent Testing Laboratory 48 hours in advance of the concrete placement. The Resident Engineer will determine at that point if the results of the field cured cylinders may be used to determine the in-place concrete strength. The Contractor shall notify the Resident Engineer as to when the field cured cylinders will be tested and for what purpose.
 - 2. A minimum of 2 cylinders shall be cast for each separate test the Contractor requests. A test consisting of at least two cylinders will be required to be considered valid.
 - 3. The field cured cylinders shall be left in the field and located such that they are exposed to the identical environmental conditions as the concrete structure. The cylinders shall remain at this location a minimum of 14 days prior to testing.

4. The Resident Engineer shall determine if the strengths indicated by the field cured cylinder tests are adequate for their intended purpose.
- D. The Resident Engineer or Contractor shall reject concrete delivered without a complete concrete delivery batch ticket as specified. Copies of the signed batch ticket will be furnished by the concrete supplier to the Contractor and the Resident Engineer. The Resident Engineer and Contractor shall inspect the concrete transit truck's barrel revolution counter and gauge for measuring water added to the concrete. The Resident Engineer or Contractor shall reject concrete which exceeds the maximum barrel revolution of 300 or which has had water added during transit. The Resident Engineer or Contractor shall reject concrete exceeding specified time limitations. Concrete not conforming to these Specifications shall be rejected by the Contractor or the Resident Engineer before discharging into the forms.
- E. Load Testing

Should the compression test of the cores taken from the structure fail to be in compliance with these Specifications, the CONTRACTOR will be directed by the Department to conduct a load test of the structure in conformance with ACI 318 under the direction of the Contractor's laboratory testing firm. Should the load test fail, the structure shall be removed from the site and replaced. All tests associated with the load testing and removal and replacement of the structure will be by the Contractor, at no cost to the Department.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. No measurement shall be made of any work performed under this Section.

4.02 PAYMENT

- A. No separate payment shall be made for any work performed under this section. The cost of any work done or facilities provided under this section shall be included under other Bid Items in Section 03300 Cast-in-Place concrete.

END OF SECTION

**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

DIVISION 4 – MASONRY

SECTION 04400
RESTORATION OF MASONRY

PART 1. GENERAL

1.01 DESCRIPTION

- A. The Work of this Section shall be to supply all materials, equipment, labor, and incidentals necessary to restore existing masonry structures.
- B. The existing masonry structures which shall require repair include:
 - 1. Upstream stone masonry headwall
 - 2. Downstream stone masonry headwall
- C. The types of restoration expected shall include:
 - 1. Limited cleaning
 - 2. Repointing of stone masonry
 - 3. Resetting of ornamental top stones
 - 4. Dry packing/mortaring of void in the downstream stone masonry wall along the outlet pipe
- D. The intent of the restoration work is to improve the appearance, stability and durability of the existing masonry structures where these have been observed to be displaced and deteriorated
- E. The extent of restoration shall be determined by the Department, but is generally intended to encompass all accessible portions of the stone masonry headwalls.
- F. The work of this Section shall specifically include, but not be limited to, all necessary provisions for
 - 1. Safe access to the work areas, including scaffolding other such methods.
 - 2. Cleaning of the stone masonry and masonry joints. Cleaning is intended to remove soil, biological material, deteriorated mortar and loose masonry and thus assist in proper repair work. General cleaning of the existing stone masonry is not required or desired.
 - 3. Replacement of missing ornamental top stones along the top of upstream and downstream headwalls.
 - 4. Repointing and restoring of any deteriorated masonry joints on the structures.
 - 5. Post-repointing removal and cleaning of any grout or mortar spills onto the face of the masonry stones.
 - 6. Dry packing/mortaring of void in the downstream stone masonry wall along the outlet pipe.

1.02 SCOPE OF WORK

- A. The Scope of this Work under the Pay Item for this Stone Masonry Restoration shall include furnishing of all labor, equipment, supplies, materials and utilities required to clean, as needed,

repair, and repoint existing masonry in such a manner as to improve its appearance, stability and durability. Cleaning shall include removal of soil and organic matter from portions of the masonry where repairs are required, including all joints, and the raking of loose, deteriorated, and old mortar from all joints. Repairs shall include physically replacing missing masonry stones using salvaged or off-site stone. Repointing of all joints shall involve the replacement of surface mortar in all stone deteriorated masonry joints as mutually identified by the Contractor and the Department. Dry packing/mortaring of void in the downstream stone masonry wall along the outlet pipe.

1.03 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other sections of these specifications as indicated:
 - 1. Temp. Erosion and Sediment Control - see Section 01560
 - 2. Temp. Water Control – see Section 01565
 - 3. Demolition, Removal, and Disposal – see Section 02065

1.04 SAFETY AND ACCESS

- A. The Contractor shall be responsible for the provision of access to the work area and safe working conditions in accordance with the Contractor's Site Specific Safety Plan and all local, state, and Federal safety codes.

1.05 SUBMITTALS

- A. Not less than ten (10) working days prior to the scheduled start of work, the Contractor shall submit information on the following items to the Engineer for review:
 - 1. All materials to be used for the work of this section, including mortars and grouts. Materials previously submitted under other Section may be referenced.
 - 2. A schedule for the execution of the work.
 - 3. An access plan showing the proposed method of providing a safe and stable working platform for the site.
 - 4. A diagram showing locations for the various work items (repointing, grouting, resetting)
 - 5. Names and qualifications of masons who will execute the work.

1.06 SAMPLE SECTION

- A. The Contractor's masons shall prepare a small sample section of repointing work to demonstrate the quality of the work and the visual appearance of the completed joints. The sample section shall be between 5 to 10 square feet in area such that a representative sample of work can be viewed. The Contractor shall NOT perform any additional re-pointing until the Department has approved the sample section. If the Department does not approve the sample section, the Contractor's masons shall make appropriate adjustments and prepare a new sample section.

PART 2. PRODUCTS

2.01 MORTAR

Standard Portland Cement Mortar shall be in general conformance with ASTM C270, Specification for Mortar for Unit Masonry. The mortar mix shall be submitted to and approved of by the Department. Minimum 7-day compressive strength shall be 4,000 psi as per ASTM C-109 Modified. Materials shall be as follows:

- Portland cement: ASTM C150 Type I/II or Type II, grey or white as required to match original mortar. Fly ash, slag and pozzolans are not permitted as substitutes for Portland cement.
- Hydrated Lime: ASTM C207 Type S, incorporated as a finely divided powder in uniform particle size, free of lumps, flakes or other inconsistencies.
- Mortar Aggregate: ASTM C144 Natural sand blend, rounded to sub-angular in shape, washed, screened and dried, with zero or near zero -270 crystalline silica content. Aggregate to be selected to match the color and texture of the original mortar aggregates as closely as possible while remaining in compliance with ASTM C144 grading and soundness requirements.
- Mortar Colors: Inorganic mineral oxides meeting the requirements of ASTM C797, at levels not to exceed 10% on cement weight, except for carbon black, which may not exceed 2% on cement weight.
- Admixtures: NO admixtures shall be used without the express written consent of the Architect and the mortar manufacturer. Calcium chloride is not permitted in any mortar. Admixtures containing more than 0.1% chloride ions are NOT permitted.
- Mortar for masonry reporting shall be standard Type S masonry mortar conforming to ASTM C270.

2.02 WATER

- A. The water used in the grout shall be potable, fresh, clean, and free from deleterious materials.

PART 3. EXECUTION

3.01 CLEANING OF EXPOSED MASONRY SURFACE

- A. Exposed surfaces where masonry must be repaired or are within and/or adjacent to joints which must be repointed shall be inspected and cleaned of all vegetation, deposits, sediment, loose substrate, and any other deleterious material by use of hand tools such as hammer and/or brush. No chemicals which could pollute the adjacent water or wetland resources shall be used in cleaning.
- B. Barriers should be constructed to collect debris and water for disposal and to minimize the effects of infiltration into the upstream and downstream waterways, and procedures shall be taken to minimize contamination of these waterways due to cleaning procedures. After cleaning, all masonry should be inspected for previously obscured deficiencies.

- C. Cleaning and refinishing of exposed masonry surfaces shall be undertaken such that a uniform appearance results without damaging the stone masonry. Cleaning is only intended to provide for appropriate surface conditions to facilitate repairs and repointing and enhancing mortar bonding. General cleaning of the entire exposed surface of the masonry is not intended.

3.02 EXAMINATION AND PREPARATION OF AREA

- A. Examine missing, deteriorated, or displaced masonry and joints on the masonry structures to determine which repairs will be necessary. Consult with Department.

3.03 MASONRY RESETTING

- A. In areas where masonry has been significantly displaced or stones are physically missing, the masonry blocks shall physically be reset. Displaced masonry shall be removed until only firm and stable masonry remains and then replaced. Missing masonry stones shall be replaced using stone salvaged or supplied by the Contractor.
- B. Provide full mortar bedding and joints for reset blocks.

3.04 MASONRY REPOINTING

- A. Rake and clean out or remove any deteriorated or loose mortar, stone, or foreign material which would interfere with the repointing. Rake joints to a minimum depth of 2.5 times the width of the joint. Do not rake more than 1/3 of the total depth of the joint.
- B. Moisten joint and surrounding masonry. Condition should be saturated surface dry without standing water in joints.
- C. Insert repointing mortar into joint to full depth.
- D. Tool joint to provide a concave shape.
- E. Provide periodic weep holes in masonry joints above normal water line. Weep holes shall be formed in joints where water leakage is currently observed or where joints are open for full depth. Create weepholes by inserting a 1/4" to 1/2" plastic tube the full depth of the joint and mortaring around the tube. Weep holes should be provided approximately every five (5) feet.
- F. After initial set, brush area to remove residual mortar or laitance. Do NOT leave mortar residue or stains on masonry face.

3.05 CURING AND CLEANING

- A. Clean excess mortar from joints.
- B. Cure mortar joints with water for minimum of 72 hours, or as directed by the mortar manufacturer. Protect from heat, cold, and water action while curing.

3.06 APPEARANCE OF WORK AND SAMPLE SECTION

- A. Acceptable appearance of repointing work shall be confirmed by the Department on the basis of its inspection of the Sample Section prepared by the Contractor's masons. The sample section

shall be prepared prior to repointing of the rest of the masonry. Provide the Department up to 48 hours to inspect and approve the sample section work.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement for Stone Masonry Joint Restoration shall be on the basis of the actual linear footage of stone masonry joint adequately and appropriately repaired. No separate measurement shall be made for cleaning, repairing, or repointing.
- B. Measurement for resetting ornamental top stones and dry packing/mortaring of the void at the downstream wall along the outlet pipe shall be as a lump sum.

4.02 PAYMENT

- A. Payment for the Stone Masonry Joint Restoration work specified herein, including all labor, materials, equipment, and incidentals and mobilization/demobilization costs for Stone Masonry Joint Restoration, including cleaning, repair, and repointing, shall be paid for at the applicable Unit price for Item 04400.01 stated on the Form for Bid.
- B. Payment for the resetting of ornamental top stones and dry packing/mortaring of the void at the downstream wall along the outlet pipe (Top Stones and Outlet Void) including all labor, materials, equipment, and incidentals and mobilization/demobilization costs for this work, shall be paid for at the applicable lump sum price for Item 04400.02 stated on the Form for Bid.

Item No.	Payment Item	Unit
04400.01	Stone Masonry Joint Restoration	Linear Foot
04400.01	Top Stones and Outlet Void	Lump Sum

END OF SECTION

SECTION 04405

MORTARED STONE MASONRY BOULDER WALL CONSTRUCTION

PART 1. GENERAL

1.01 DESCRIPTION

- A. The Work of this Section shall be to supply all materials, equipment, labor, and incidentals necessary to reconstruct the stone masonry weir of the concrete spillway.
- B. The stone masonry weir shall consist of angular blasted or field stones having straight edges, but with faces not necessarily rectangular in shape, laid in cement mortar and in close conformity with the lines and grades shown on the Contract Drawings of established by the Engineer. The intent of the work is to duplicate the general appearance of the existing weir as practical.
- C. Stones salvaged from demolition may be used to reconstruct weir. Imported stone may be required and if used, should result in a uniform appearance that is similar to the existing structure.

1.02 SCOPE OF WORK

- A. The Scope of this Work under the Pay Item for Stone Masonry Wall shall include furnishing of all labor, equipment, supplies, materials and utilities required to reconstruct a mortared stone masonry weir of the concrete spillway. The entire existing stone masonry weir will be removed in its entirety . The weir shall be constructed of boulders salvaged from demolition of the existing masonry weir and imported stones as required.

1.03 RELATED WORK

- A. The following is a list of related work items that shall be performed or furnished under other sections of these specifications as indicated:
 - 1. Temp. Erosion and Sediment Control - see Section 01560
 - 2. Temp. Water Control – see Section 01565
 - 3. Demolition, Removal, and Disposal – see Section 02065
 - 4. Reinforced Cast-In-Place Concrete – see Section 03300
 - 5. Wooden Stoplogs – see Section 11285

1.04 SAFETY AND ACCESS

- A. The Contractor shall be responsible for the provision of access to the work area and safeworking conditions in accordance with the Contractor's Site Specific Safety Plan and all local, state, and Federal safety codes.

1.05 SUBMITTALS

- A. Not less than ten (10) working days prior to the scheduled start of work, the Contractor shall submit information on the following items to the Engineer for review:
1. All materials to be used for the work of this section, including stones, mortars and grouts. Materials previously submitted under other Section may be referenced.
 2. A schedule for the execution of the work.
 3. An access plan showing the proposed method of providing a safe and stable working platform for the site.
 4. Names and qualifications of masons who will execute the work.

1.06 SAMPLE SECTION

- A. The Contractor's masons shall prepare a small sample section of the stone masonry weir to demonstrate the quality of the work and the visual appearance of the completed joints. The sample section shall be between 5 to 10 square feet in area such that a representative sample of work can be viewed. The Contractor shall NOT perform any additional stone masonry construction until the Owner has approved the sample section. If the Owner does not approve the sample section, the Contractor's masons shall make appropriate adjustments and prepare a new sample section.

PART 2. PRODUCTS

2.01 STONE

- A. Stone for the weir shall consist of either stone salvaged from demolition of the existing weir or imported stone approved by the Department.

2.02 MORTAR

- A. Standard Portland Cement Mortar shall be in general conformance with ASTM C270, Specification for Mortar for Unit Masonry. The mortar mix shall be submitted to and approved of by the Department. Minimum 7-day compressive strength shall be 4,000 psi as per ASTM C-109 Modified. Materials shall be as follows:
1. Portland cement: ASTM C150 Type I/II or Type II, grey or white as required to match original mortar. Fly ash, slag and pozzolans are not permitted as substitutes for Portland cement.
 2. Hydrated Lime: ASTM C207 Type S, incorporated as a finely divided powder in uniform particle size, free of lumps, flakes or other inconsistencies.
 3. Mortar Aggregate: ASTM C144 Natural sand blend, rounded to sub-angular in shape, washed, screened and dried, with zero or near zero -270 crystalline silica content. Aggregate to be selected to match the color and texture of the original mortar aggregates as closely as possible while remaining in compliance with ASTM C144 grading and soundness requirements.

4. Mortar Colors: Inorganic mineral oxides meeting the requirements of ASTM C797, at levels not to exceed 10% on cement weight, except for carbon black, which may not exceed 2% on cement weight.
5. Admixtures: NO admixtures shall be used without the express written consent of the Architect and the mortar manufacturer. Calcium chloride is not permitted in any mortar. Admixtures containing more than 0.1% chloride ions are NOT permitted.

2.03 WATER

- A. The water used in the grout shall be potable, fresh, clean, and free from deleterious materials. Water from the brook shall not be used to mix the grout.

PART 3. EXECUTION

3.01 FOUNDATION PREPARATION

- A. The stone masonry weir shall be constructed on reinforced concrete foundation with $\frac{3}{4}$ " diameter dowels embedded.

3.02 CONSTRUCTION OF STONE MASONRY WEIR

- A. Selected stone, roughly shaped to provide suitable exposed faces, shall be used at all angles and ends of the weir. All shaping of stone shall be done before the stone is laid in the weir. If a stone is loosened after the mortar has set, it shall be removed, the mortar cleaned off, and the stone relaid in fresh mortar.
- B. The masonry shall be laid and the face pattern shall be of uniform appearance throughout. The stones shall decrease in size from bottom to top of weir. Stone sizes shall increase for footer stones atop concrete foundation.
- C. Each stone to be set in mortar shall be cleaned and thoroughly wetted before being set. Each stone shall be set on full beds of mortar, and mortar joints shall be full and the stone shall be settled in place before the mortar has set.
- D. The weir shall be compactly laid having all interior joints completely filled with suitable stones thoroughly bedded in mortar.
- E. The tolerance along the downstream and upstream face shall be similar to the existing weir. The tolerance of the top of the weir shall be a maximum difference of high points to low points of one (1) inch.

3.03 CURING AND CLEANING

- A. Clean excess mortar from joints.
- B. Clean any mortar from the face of the stones before the mortar has set.
- C. Cure mortar joints with water for minimum of 72 hours, or as directed by the mortar manufacturer. Protect from heat, cold, and water action while curing.

3.04 APPEARANCE OF WORK AND SAMPLE SECTION

- A. Acceptable appearance of the stone masonry weir work shall be confirmed by the Owner on the basis of its inspection of the Sample Section prepared by the Contractor's masons. The sample section shall be prepared prior to work on the rest of the stone masonry weir. Provide the Owner up to 48 hours to inspect and approve the sample section work.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement for Mortared Stone Masonry Weir shall be measured on the basis of the number of cubic yards in the completed structure, complete in place and accepted. The limiting dimensions shall not exceed those shown on the Contract Drawings or directed by the Engineer. No separate measurement shall be made for cleaning or foundation preparation.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all labor, materials, equipment, and incidentals and mobilization/demobilization costs for Mortared Stone Masonry Weir, including cleaning, construction, and curing shall be paid for at the applicable lump sum price for Item 04405.01 stated on the Form for Bid. The cost for providing (importing) additional stone to construct the weir shall be included in the bid price.

Item No.	Payment Item	Unit
04405.01	Mortared Stone Masonry Weir	Lump Sum

END OF SECTION

**Bellevue Pond Dam
Rehabilitation Project**

**Commonwealth of Massachusetts Department of Conservation and Recreation
Middlesex Fells Reservation
Medford, Massachusetts**

TECHNICAL SPECIFICATIONS

DIVISION 11 – EQUIPMENT

SECTION 11285
WOODEN STOP LOGS

PART 1. GENERAL

1.01 DESCRIPTION

- A. This specification relates to the design, materials of construction, fabrication, furnishing, and installation of wooden stop logs with appurtenant and accessories, required for the complete and proper operation of the system.
- B. The work of this item covers the fabrication of the stop log system, provision of all components, and its installation. Included in the work shall be all measurements and coordination necessary for the proper sizing of the stop log system.

1.02 SCOPE

- A. The Work of this section includes the furnishing of all labor, tools, equipment, and materials, supervision, effort, and other items necessary to design, fabricate, provide, install, and adjust a wooden stop log system for the new spillway weir. The system shall include a set of guides, required stop logs and locking mechanism which meet the design specifications detailed below.
- B. The Work of this section includes the furnishing of all labor, tools, equipment, and materials, supervision, effort, and other items necessary to design, fabricate, provide, install the wooden stop logs.

1.03 SUBMITTALS

- A. Not less than ten (10) days prior to the scheduled start of fabrication, the Contractor shall submit shop drawings and design calculations depicting the design of the stop logs and the proposed method of installing, maintaining, and removing the stop logs, to the Department for review. The submittal shall include as a minimum the following items:
 - 1. The design of the stop logs and guides including size, weight, material, and seal details.
 - 2. Calculations for maximum bending stress and deflection of the stop logs under the maximum design head and overstress conditions stamped by a registered Professional Engineer in the Commonwealth of Massachusetts.
 - 3. The design of the attachment system between the stop log guides and guide frame/supports and the method of installation.
 - 4. Testing methodology for proving the functionality of the stop logs after installation and prior to acceptance.

1.04 RELATED SECTIONS

- A. Section 03300 – Cast-in-Place Concrete

PART 2. MATERIALS

2.01 STOP LOG SYSTEM

- A. Timber shall be sized to the requirements indicated in the Contractor's approved design submittal shall be pressure treated Southern Yellow Pine, Douglas Fir, or other similar rot resistant wood impregnated to a minimum 0.4 pounds per cubic foot (pcf) retention or refusal with Alkaline Copper Quaternary (ACQ). Treat ends of all job cuts with Osmose K-33 preventative concentrate or approved equal.
- B. Wooden stop logs shall consist of pressure treated lumber with a minimum thickness of 2.5 inches.
- C. The log shall not deflect more than 1/360 the span of the log under the maximum design head. Logs are to be of sufficient weight to be submerged under their own weight.
- D. The height of each stop log shall not exceed 6 inches (6") - including seals.
- E. All stop logs in a single location shall be interchangeable. They shall be designed to function properly when stacked in any order
- F. Neoprene, or other gasket material approved by the Department, shall be affixed to the bottoms and sides of each stop log to minimize leakage.
- G. The guides shall be stainless steel L 3.0" x 3.0" 0.5" angles. The guides shall be designed for maximum rigidity and will be provided with side angle for surface mounting using anchor bolts. Guides shall be surface mounted to the interior face of the sluiceway using anchor bolts.
- H. All welding, if required, shall be done in accordance with AWS D1.2 for wooden and AWS D1.6 for stainless steel.
- I. Anchor bolts, shall be minimum ½ inch diameter stainless steel Hilti KWIK Bolt TZ2 SS316 or approved equal.
- J. Design head for the stoplog system to resist 5 feet of head.

PART 3. EXECUTION

3.01 GUIDES FRAMES

- A. Fabricate the stop log guides. Notify Resident Engineer prior to installation. Guides shall not be installed prior to observation by the Resident Engineer.
- B. Verify that rebar placement will not interfere with guide installation. Make adjustments as needed.
- C. Stop log guides shall be installed to the full height of the wall in which they are affixed or as shown on the Contract Plans.

3.02 STOP LOG INSTALLATION

- A. The Contractor shall be responsible for all final measurements necessary to insure proper fit.
- B. Stop log system must be installed such that stop logs may be easily installed and removed.

3.03 TESTING

- A. The normal pool for stop log testing shall be ½ inch below the top of the stop logs. Minimal leakage should be observed with the logs in place.
- B. If the testing procedure indicates that leakage rates are excessive, the Contractor shall take all necessary steps to correct the situation and reduce leakage to acceptable levels.

PART 4. MEASUREMENT AND PAYMENT

4.01 MEASUREMENT FOR PAYMENT

- A. Measurement for wooden stoplogs and associated channels meeting the testing standard shall be made on a lump sum basis. No separate measurement shall be made for guides.

4.02 PAYMENT

- A. Payment for the scope of the work specified herein, including all design, fabrication, transport, labor, materials, equipment, and incidentals associated with the work of furnishing, installing, and testing Wooden Stop Logs, including frames/supports, shall be paid for at the applicable lump sum price stated for Item 11285.01 on the Form for Bid. No separate payment shall be made for the guides, which shall be considered incidental to the stop logs.

<u>Item No.</u>	<u>Payment Item</u>	<u>Unit</u>
11285.01	Wooden Stop Logs and Guides	Lump Sum

END OF SECTION