If you have printed this bid from the City of Quincy's Website or through an email, it is your responsibility to check for addenda at www.quincyma.gov before you turn in your proposal. "Please send an acknowledgment that you have printed out this bid via email to: kimtrillcott@quincyma.gov" The City of Quincy will not be responsible for any bids received omitting any addenda acknowledgement.

Thank you
BID DOCUMENTS

March 2018

CITY OF
QUINCY
MASSACHUSETTS

WOLLASTON BEACH AREA SSES
REHABILITATION PROJECT
PHASE II
MWRA PROJECT NO. WRA-P9-26-3-971
CWSRF ID 3974

3/12/18
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APPENDICES

Appendix A: Wage Rates
Appendix B: Television Inspection Logs
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Appendix D: Quincy Point Pump Station Emergency Response Plan
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END OF SECTION
INVITATION TO BID

The Department of Public Works for the City of Quincy, Massachusetts is seeking sealed bids for the Wollaston Beach Area SSES Rehabilitation Phase II until 11:00 a.m. local time Thursday, April 5, 2018, in the office of the Purchasing Agent, 1305 Hancock St., Quincy, Massachusetts 02169, at which time and place all bids will be publicly opened and read aloud. Late bids delivered by mail or in person will be rejected.

The work for the base bid includes the cleaning, inspecting, testing and sealing 2,819 lf of sewers; exterior sealing and cementitious lining of 127 manholes; rebuilding sewer manhole benches and inverts of up to 5 manholes; chemical root treatment of 9,350 lf of sewers; install 12 lf of short liner; install cured-in-place-pipe from manhole-to-manhole in 21,570 lf of sewers; television inspecting, testing and sealing 48 service connections; cutting 4 protruding service connections; and other related tasks.

The work for Alternate No. 1 includes the epoxy lining of 5 air release and force main manholes; protective wrapping of force main piping within 5 air release and force main manholes; replacing the air release piping within 4 air release manholes; replacing blind flanges within 4 air release manholes; and other related tasks.

Detailed specifications are available on-line at the City of Quincy’s website, www.quincyma.gov and also available at the Office of the Purchasing Agent, Quincy City Hall, 1305 Hancock Street, Quincy, Massachusetts, 02169, between the hours of 8:30 AM and 4:30 PM for a refundable printing charge of $50.00 if returned 10 days within Bid opening and in unused condition. Specifications will be available Wednesday, March 21, 2018.

All questions regarding this bid should be directed to Kathryn R. Logan, Purchasing Agent, by emailing purchasing@quincyma.gov. Questions will be accepted until Friday, March 30, 2018 at 12:00 p.m.

All work of the Base Bid portion of the project under this contract shall be completed within one hundred and thirty-five (135) calendar days, excluding re-test inspection.

All work of the Base Bid plus Alternate No. 1 under this contract shall be completed within one hundred and sixty (160) calendar days, excluding re-test inspection.

Each bid shall be accompanied by a bid security in the amount of five percent (5%) of the total value of the bid in the form of a bid bond or certified/treasurer’s check.

The work of the Base Bid portion of the project is funded in part by the Massachusetts Water Resources Authority I/I Local Financial Assistance Program.

The work of Alternate No. 1 portion of the project is funded in part by the Massachusetts Water Pollution Abatement Trust (the “Trust”).

Minority-owned Business Enterprise (MBE), women-owned Business Enterprise (WBE), Disadvantaged Business Enterprise (DBE), and Equal Employment Opportunity policies of the Massachusetts Water Resources Authority (MWRA), Massachusetts Department of Environmental Protection (MassDEP), and the City of Quincy are applicable to this Contract. The Bidder shall comply with all applicable laws and regulations pertaining to nondiscrimination, equal opportunity and affirmative action, including without limitation executive orders and rules and regulations of federal and state agencies of competent jurisdiction. The Bidder shall make positive efforts to achieve: (1) a minority employee work force hour goal of 15.30 percent, (2) a woman employee work force hour goal of 6.90 percent (3) a goal of 7.24 percent participation of Minority-owned Business Enterprise(s), and (4) a goal of 3.60 percent participation of Woman-owned Business Enterprise(s), (5) a goal of 4.20 percent
participation of Disadvantaged/Minority Business Enterprise(s), and (6) a goal of 4.50 percent participation of Disadvantaged/Women Business Enterprise(s) within project contracts. All MBEs and WBEs shall be certified by the Commonwealth of Massachusetts under the provisions certified by the Supplier Diversity Office (SDO). At a minimum, MWRA, MassDEP, and the City of Quincy should allow MBEs and WBEs the maximum feasible opportunity to compete for subagreements performed under the project. Disadvantaged Business Enterprise (DBE) goals are applicable to the total dollars paid to the construction contract. The two low General Bidders shall submit completed DBE forms (EEO-DEP-190 & EEO-DEP-191) by the close of business on the third business day after bid opening. Failure to comply with the requirements of this paragraph may be deemed to render a proposal non-responsive. No waiver of any provision of this section will be granted unless approved by the MassDEP.

The project requires compliance with Massachusetts Diesel Retrofit Program [MDRP] by use of after-engine emission controls that are EPA certified, or their equivalent, on at least 100% the off-road [non-registered] diesel vehicles/equipment used at the job site.

American Iron and Steel Requirement shall apply to this project and all iron and steel products shall be produced in the United States. Iron and steel products include pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

All bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended.

Prevailing Wage Rates as determined by the Director of the Executive Office of Labor and Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27H, as amended, apply to this project. It is the responsibility of the Bidder, before bid opening, to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this contract. Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this project.

The City reserves the right to waive any informality in or to reject any or all bids when such an action is deemed in the best interests of the City.

**Non-responsive, and/or unbalanced bids may be rejected.**

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<th>Al Grazioso</th>
<th>Kathryn R. Logan</th>
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<td>Mayor</td>
<td>Commissioner of Public Works</td>
<td>Purchasing Agent</td>
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Consulting Engineer: Weston & Sampson Engineers, Inc. Five Centennial Dr. Peabody, MA 01960

1305 Hancock St., Quincy MA 02169
Telephone: (617) 376-1060 Fax: (617) 376-1074
INSTRUCTIONS TO BIDDERS

ARTICLE 1    PROJECT IDENTIFICATION

1.1 Owner: City of Quincy, Massachusetts

1.2 Awarding Authority: Al Grazioso
Commissioner of Public Works
55 Sea Street, Quincy, MA 02169

1.3 Project Name: Wollaston Beach Area SSES Rehabilitation Project – Phase I

1.4 Funding: a. The City of Quincy

b. Base Bid - Massachusetts Water Resources Authority (MWRA) I/I Local Financial Assistance Program

c. Alternate No. 1 - Massachusetts Water Pollution Abatement Trust (the “Trust”)

1.5 The following Documents are required to be submitted with the Bids. Failure to comply with these requirements may render the Bid non-responsive and thus be disqualified.

a. Bid Forms (all original signatures) (Section 00300).
b. Bid Bond (Section 00305).
c. MBE/WBE Requirements (Section 00310 - Schedule of Participation & Letter of Intent, SDO Certifications for each Letter of Intent must be included).
d. Affidavits and Certifications (Section 00315).
e. Massachusetts Diesel Retrofit Program (MDRP) Statement of Intent to Comply (Section 00300 – Attachment C).

ARTICLE 2    QUALIFICATIONS OF BIDDERS

2.1 Bidders may be investigated by the City to determine if they are qualified to perform the work. Bidders shall submit within five (5) calendar days of the City's or Engineer's request, written evidence of such information and data necessary to make this determination.

2.2 The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the project jurisdiction, has had previous experience and whether available equipment and financial resources are adequate to assure the City that the work will be completed in accordance with the terms of the Agreement. The amount of other work to which the
Bidder is already committed may also be considered.

2.3 The City reserves the right to reject any Bid if the evidence submitted by, or the investigation of such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations and the work included in the Contract Documents.

**ARTICLE 3 COPIES OF CONTRACT DOCUMENTS**

3.1 Complete sets of Contract Documents shall be used in preparing Bids; neither the City nor the Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

3.2 The City and the Engineer in making copies of Contract Documents available do so only for the purpose of obtaining bids on the Work and do not confer a license or grant permission for any other use.

**ARTICLE 4 EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

4.1 Before submitting a Bid, each Bidder must a.) examine the Contract Documents thoroughly, b.) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, c.) familiarize himself with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress, or performance of the Work; and d.) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.

4.2 All information given in the Drawings and the other Contract Documents relating to subsurface and other conditions, natural phenomena, existing utilities, pipelines, other structures, etc. is from the best sources available to the City. All such information is furnished only for the information and convenience of the Bidders and is not guaranteed.

4.3 Before submitting the Bid, each Bidder may, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine the accuracy of his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.4 On request, the City will provide each Bidder access to the site to conduct such investigations and tests as each Bidder may deem necessary for submission of the Bid.

4.5 The lands upon which the work is to be performed and rights-of-way for access thereto are identified on the Drawings.

4.6 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are
sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

ARTICLE 5  INTERPRETATIONS

5.1 All questions about meaning or intent of the Contract Documents must be directed to Kathryn R. Logan, Purchasing Agent, by emailing purchasing@quincyma.gov. Questions will be accepted until Friday, March 30, 2018 at 12:00 p.m., or as set forth in the Invitation to Bid.

5.2 Written clarifications or interpretations will be issued through Addenda. No addenda will be issued any later than 48 hours before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be posted on-line at the City of Quincy’s website, www.quincyma.gov. Notification of Addenda will be emailed to all parties recorded to have received the Contract Documents. Potential bidders are requested to acknowledge that they have printed out the documents.

5.3 Each Bidder shall be responsible for determining all Addenda issued have been received and incorporated into the Bid.

5.4 **A BID WHICH INCLUDES, FOR ANY ITEM, A BID PRICE THAT IS ABNORMALLY HIGH OR LOW, MAY BE REJECTED AS AN UNBALANCED BID.**

5.5 The quantities in the Bid Form are being set forth as a basis for the comparison of bids only and the actual amount of work may not correspond therewith.

5.6 The City reserves the right to delete all or any portion of the work or add new work or to decrease or increase the scope of any item of the work to be done under this Contract either prior to executing the Contract or at any time during the life of the Contract. Exercise by the City of the above rights shall not constitute any grounds or basis of claims for damages or for a loss of anticipated profits.

Also, an increase or a decrease of quantity for any bid item (regardless of its magnitude) shall not be regarded as a grounds or basis for any increase or decrease in the Contract unit prices, nor in the time allowed for the completion of the work except as provided for in the Contract.

ARTICLE 6  PRE-BID CONFERENCE: Refer to Section 00100 – Invitation to Bid.

ARTICLE 7  BID SECURITY

7.1 Each bid must be accompanied by a bid bond, in cash or certified check or a treasurer's/cashiers check issued by a bona fide bank or trust company, payable to the City of Quincy.
The Bid Security shall be in the amount of five percent (5%) of the Total Bid Price. The Bid Security shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid. All Bid Securities except those of the three lowest responsible and eligible bidders will be returned within ten calendar days after the opening of bids. All Bid securities will be returned on the execution of the Agreement, or if no award is made, within sixty calendar days after the actual Bid Opening Date, unless the bid security is forfeited under the conditions stipulated herein.

7.2 In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds within the time specified, the City may determine that the bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance thereof shall be null and void, and the Bid Security accompanying the Bid Form shall be forfeited to the City as liquidated damages for such failure or neglect and to indemnify the said City for any loss which may be sustained by failure of the Bidder to execute the Agreement and furnish the bonds aforesaid, provided that the amount forfeited to the City shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible Bidder and provided further that, in case of death, disability or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned. After execution of the Agreement and acceptance of bonds by the City, the Bid Security accompanying the Bid Form of the Successful Bidder will be returned.

ARTICLE 8  PERFORMANCE, PAYMENT AND OTHER BONDS

8.1 Performance, Payment and other required bonds and project Insurance Certificates shall be provided in accordance with Article 5 of the General Conditions of the Contract.

8.2 All Bonds required as Contract Security shall be furnished prior to the execution of the Agreement.

ARTICLE 9  BID FORMS

9.1 Each Bid shall be submitted on the Bid Form included in this Project Manual. All blank spaces for Bid prices must be filled in with unit or lump sum prices for each of the items for which the bid is requested.

9.2 Bid Forms shall be completed in ink or be typewritten. The Bid price of each item on the form shall be stated in words, and figures. Discrepancies between unit prices and their respective total amounts will be resolved in favor of the unit prices. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and correct sum thereof shall be resolved in favor of the correct arithmetic sum, based on words.

9.3 Bids by corporations shall be executed in the corporation name, by the Chief Executive Officer (or other corporate officer). The bid must be accompanied by evidence of authority to sign
the bid and the corporate seal shall be affixed and attested to by the secretary. The corporate address and state of incorporation shall be shown below the signature.

9.4 Bids by partnership shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.

9.5 All names shall be typed or printed below the signature.

9.6 The Bid shall confirm the receipt of all Addenda. Actual number of Addenda received shall be filled in on the Bid Form.

9.7 The address and telephone number of the person to whom communications regarding the Bid are to be directed shall be shown.

9.8 Bids shall be submitted (original signatures) in a sealed opaque envelope bearing on the outside the Bidder's name, address, and the Project Title for which the Bid is submitted. If forwarded by mail, the Bid shall be enclosed in a sealed envelope with the notation "BID ENCLOSED" on the face and address as above. The Bid Security shall be submitted in a separate envelope from the Bid and attached to the sealed envelope containing the bid.

ARTICLE 10 RECEIPT OF BIDS

10.1 Sealed bids for the work under this Contract will be received at the time and place indicated in the Invitation to Bid.

10.2 The City may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.

10.3 Bidders are cautioned that it is the responsibility of each individual Bidder to ensure that the bid is in the possession of the responsible official or a designated alternate prior to the stated time and at the place of the Bid Opening. The City is not responsible for bids delayed by mail and/or other forms of delivery.

ARTICLE 11 MODIFICATION AND WITHDRAWAL OF BIDS

11.1 Bids may be modified only by an appropriate document duly executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

11.2 Bids may be withdrawn prior to the scheduled Bid Opening time or the authorized postponement thereof.

11.3 Bids, once officially opened, cannot be withdrawn and shall remain open for a period of thirty
(30) calendar days from the date of the opening. The City, at its sole discretion, may release any bid and return the Bid Security prior to that date.

ARTICLE 12 AWARD OF CONTRACT

12.1 The Contract will be awarded to the lowest responsible and eligible bidder (Successful Bidder) for the Base Bid or the Base Bid plus Alternate No. 1. Such a Bidder shall possess the skill, ability, job-related prior work experience, and integrity necessary for the faithful performance of the work and the bid, apart from being complete and responsive, is the lowest in price of all the bids opened.

12.2 The City reserves the right to reject any and all Bids, to waive any and all informalities, if it is in the City's best interest to do so, and the right to disregard all nonconforming, non-responsive, unbalanced and conditional Bids.

12.3 The City also reserves the right to reject the Bid of any Bidder who is considered to be unqualified in accordance with Article 2, above.

12.4 If the Contract is to be awarded, the City will give the Successful Bidder a Notice of Award within thirty (30) calendar days after the actual Bid Opening Date. The Notice of Award will have to be formally acknowledged and accepted by the Bidder within the time period stipulated herein.

12.5 The acceptance of the above Notice of Award shall be accompanied by a complete list of subcontractors (specialty, suppliers, and sub-consultants, etc.) selected by the Bidder to work on the project. The list shall contain information on the percentage of total work (material, labor, equipment and services) allocated to each sub-contractor.

ARTICLE 13 EXECUTION OF AGREEMENT

13.1 When the City gives a Notice of Award to the Successful Bidder, it will be accompanied by at least six (6) unsigned copies of the Agreement and all other applicable Contract Documents. Within ten (10) calendar days from the date of such notification, Contractor shall execute and return all copies of the Agreement and all other applicable Contract Documents to the City. Within ten (10) calendar days thereafter, the City will deliver one fully signed copy along with the "Notice to Proceed" to the Contractor.

13.2 If for any reason the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. If the Notice to Proceed has not been issued within the ten (10) calendar days after signing of the Agreement, or within the time period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

13.3 The Bidder's attention is directed to special requirements in relation to project construction
work and completion schedule, specified in Division One - Technical Requirements Sections in this Project Manual. Each Bidder is urged to study these requirements to insure compliance with the same before submitting the Bid.

ARTICLE 14      SAFETY AND HEALTH REGULATIONS

14.1  This Project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974, and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.

14.2  The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

14.3  The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

14.4  This project is also subject to the Massachusetts Department of Labor and Industries Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (Industrial Bulletin No. 12)".

ARTICLE 15      SALES TAX

15.1  The materials and supplies to be used in the Work shall be exempt from all applicable Federal, State and local sales taxes.

ARTICLE 16      UTILITY UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

16.1  All excavations within public or private ways are subject to the requirements of Massachusetts General Laws, Acts of 1983, Chapter 252, included in Part II of the Supplementary Conditions.

ARTICLE 17      WAGE RATES

17.1  All work done under this Contract shall be subject to compliance with the prevailing wage rates as mandated by the Commonwealth of Massachusetts Director of the Executive Office of Labor and Workforce Development and the U.S. Department of Labor Wage Rates issued in the most recent wage decisions applicable to the project area.
17.2 The Commonwealth of Massachusetts Prevailing Wage Rates issued under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27H, as amended, shall apply to the projects when the use of Federal funds is not involved on a particular project.

17.3 The Schedule of Prevailing Wage Rates are included as part of this project manual and shall be strictly enforced.

17.4 It is the responsibility of the Contractor, before submitting the Bid, to verify the minimum wage rates and to request, if necessary, any additional and/or the latest information on wage rates for all tradespeople to be employed under this contract.

ARTICLE 18 COMPETITIVE BIDDING

18.1 The Bidding and award of this contract shall be in full compliance with the Federal Procurement Act and with MGL Chapter 30, Section 39M, as last revised.

ARTICLE 19 GUARANTEES

19.1 In addition to other guarantees due the City, the Contractor guarantees that the Work and services to be performed under the Contract, and all workmanship, materials, and equipment furnished, used or installed shall be free from defects and flaws, and shall be in strict accordance with the Drawings, Specifications, and other Contract Documents. Also, the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of Substantial Completion and acceptance of the Work unless otherwise specified herein.

The Performance Bond shall remain in full force and effect throughout the Guarantee Period.

19.2 If at any time within the said period of guarantee, any part of the Work requires repairs, correction and/or replacement, the City may notify the Contractor in writing to make the required repairs, corrections, or replacements to the satisfaction of the City within ten (10) days from the date of receipt of such notice, or having commenced said repairs, corrections or replacement, fails to prosecute such work with diligence, the City may employ other person(s) to make the same, and all direct and indirect costs of making said repairs, corrections or replacements, including compensation for additional professional services, shall be paid by the Contractor.

19.3 Whenever it is written that an equipment manufacturer must have a specified period of experience with his product, equipment which does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide an "Efficiency Guarantee Bond" or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.
ARTICLE 20  LABOR DISPUTES

20.1 The Bidder shall submit a written statement as to whether it has been the subject of, or otherwise been involved in any labor dispute during the past five (5) years. If the bidder has been the subject of, or otherwise been involved in any labor dispute during this period, the Bidder must also provide a detailed description of each labor dispute, including the name and location of the project worked on, the nature of the dispute, the duration and dates during which the dispute took place and how the dispute was resolved. For these purposes, "labor disputes" shall include picketing or any other activity which disrupted or delayed the Work.

ARTICLE 21  RECORD KEEPING

21.1 The Contractor is reminded that the provisions of Chapter 30, Section 39R relative to record keeping apply to this Contract. A copy of c.30, s.39R is included in the Supplementary Conditions. A brief summary of the requirements is as follows:

a. The Contractor and all sub-contractors shall maintain books, records and accounts at least six (6) years after the final payment. They will be subject to inspection by the awarding authority, officers of the Inspector General, or the Deputy Commissioner of Capital Planning and Operations.

b. Any changes in record keeping or recording transactions which affect the awarding authority shall be explained along with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the change.

c. The Contractor shall file with the awarding authority a statement of management as to whether the system of internal accounting controls has been established.

d. The Contractor shall file with the awarding authority a statement prepared and signed by an independent certified public account that an examination has been made of internal accounting controls.

ARTICLE 22  LAWS AND REGULATIONS

22.1 All applicable laws, ordinances and rules and regulations of all Public Agencies having jurisdiction over construction of the project shall apply to the Contract throughout.

22.2 This project is subject to all of the OSHA Safety and Health Regulations (see CFR Part 1926/1910 and all subsequent amendments), as promulgated by the United States Department of Labor on June 24, 1974 and MGL Chapter 454 CMR 10.00, et.seq.; The Prevention of Accidents and Illnesses in Construction Operations. Contractors shall become familiar with the requirements of these regulations.
22.3 The MBE/WBE policy guidelines must be studied carefully by each bidder before preparing his Bid. Failure to comply with these requirements may result in a finding that the Bidder is non-responsive and therefore, not entitled to award of this Contract.

22.4 This Contract is subject to all the Federal Government, Commonwealth of Massachusetts, and City of Quincy Equal Employment Opportunity, Anti-discrimination and Affirmative Action Programs. The text of the program is set forth in these specifications. Contractor’s and subcontractors certifications will be required by the City prior to execution of the Contract.

22.5 Minority Business Enterprise (MBE) and Women’s Business Enterprise (WBE) policies of the Federal Government, the Commonwealth of Massachusetts and the City of Quincy are applicable to this Contract. Failure to comply with the requirements of this paragraph may be deemed to render a proposal non-responsive. No waiver of any provision of this section (see section 00310 in the project manual) will be granted.

22.6 Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this Contract and any provision in violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirement shall apply.

22.7 Prevailing Wage Rates as determined by the Director of the Executive Office of Labor and Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27H, as amended, apply to this project. It is the responsibility of the Bidder, before bid opening, to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this contract. Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this project.

22.8 This project is subject to the requirements of the Department of Environmental Protection’s Diesel Retrofit Program. Bidders must submit a signed and dated Statement of Intent to Comply form as part of their bid proposal documents.

22.9 This project is subject to the American Iron and Steel requirements of P.L. 113-76, the Consolidated Appropriations Act of 2014.

Kathryn Logan
Purchasing Agent
SECTION 00300
FORM OF GENERAL BID

Proposal of ____________________________________________ (hereinafter called "Bidder")*

( ) a corporation, organized and existing under the laws of the State of _____________

( ) a joint venture

( ) a limited liability company

( ) a partnership

( ) an individual doing business as _______________

*Insert corporation, partnership, joint venture, limited liability company, or individual as applicable.

To __City of Quincy, Massachusetts__ (hereinafter called the Owner).

Gentlemen:

The undersigned Bidder, in compliance with your invitation for bids for the construction of Wollaston Beach Area SSES Rehabilitation Project Phase II, MWRA Project No. WRA-P9-26-3-971, CWSRF ID 3974, having examined the plans and specifications with related documents and the site of the proposed work and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, and all other things necessary to construct the project in accordance with the contract documents, as prepared by Weston & Sampson Engineers, Inc., within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

The Bidder hereby agrees that if selected as the Contractor it will commence work under this contract on or before a date to be fixed in the written "Notice to Proceed" given by the Owner to

10/18/2016
00300-1
the Contractor and to fully complete the project, excluding re-test inspection, within one hundred thirty-five (135) consecutive days for the work of the Base Bid. All work of the Base Bid plus Alternate No. 1 under this contract shall be completed within one hundred and sixty (160) consecutive days of the start date fixed in the “Notice to Proceed”, excluding re-test inspection. The Bidder further agrees to pay as liquidated damages the sum of $1,300.00 for each consecutive calendar day thereafter during which the work has not been fully completed, as provided in the "Liquidated Damages" provisions of Section 00800 SUPPLEMENTARY CONDITIONS.

Bidder acknowledges receipt of the following addenda:

No. _______ Dated: ________________

No. _______ Dated: ________________

No. _______ Dated: ________________

No. _______ Dated: ________________

The Bidder agrees to perform the work described in the specifications and shown on the plans for the following lump sum or unit prices:
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity*</th>
<th>Bid Description Unit or Lump Sump Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASE BID (Items 1 through 8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Sewer Cleaning, Television Inspection, Testing and Sealing:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a</td>
<td>1,557 l.f.</td>
<td>Cleaning &amp; television inspection of 8-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($ )</td>
</tr>
<tr>
<td>1b</td>
<td>810 l.f.</td>
<td>Cleaning &amp; television inspection of 10-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($ )</td>
</tr>
<tr>
<td>1c</td>
<td>452 l.f.</td>
<td>Cleaning &amp; television inspection of 12-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($ )</td>
</tr>
</tbody>
</table>

*Quantity assumed for comparison of bids.
<table>
<thead>
<tr>
<th>Item No.</th>
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<th>Bid Description Unit or Lump Sump Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1d</td>
<td>519 joints</td>
<td>Testing of 8 inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>and</td>
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<td></td>
<td>(cents)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>($                      )</td>
<td></td>
</tr>
<tr>
<td>1e</td>
<td>270 joints</td>
<td>Testing of 10-inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>and</td>
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<td>(cents)</td>
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<tr>
<td></td>
<td></td>
<td>($                      )</td>
<td></td>
</tr>
<tr>
<td>1f</td>
<td>151 joints</td>
<td>Testing of 12-inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>(cents)</td>
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<td>($                      )</td>
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</tr>
</tbody>
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<thead>
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<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1g</td>
<td>260 joints</td>
<td>Sealing of 8-inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>($</td>
<td></td>
</tr>
<tr>
<td>1h</td>
<td>135 joints</td>
<td>Sealing of 10-inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>(cents)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>($</td>
<td></td>
</tr>
<tr>
<td>1i</td>
<td>76 joints</td>
<td>Sealing of 12-inch joints, per joint</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
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</tbody>
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<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>Sewer Manhole Rehabilitation:</td>
<td></td>
</tr>
<tr>
<td>2a</td>
<td>1,375 v.f.</td>
<td>Exterior Sealing and Interior Cementitious lining of manholes, per vertical foot</td>
<td>$ ___________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
</tr>
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<td></td>
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<td>and</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>($ ___________ )</td>
<td></td>
</tr>
<tr>
<td>2b</td>
<td>5 ea.</td>
<td>Rebuild sewer manhole bench and invert, each</td>
<td>$ ___________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
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<td>(cents)</td>
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<tr>
<td></td>
<td></td>
<td>($ ___________ )</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Sewer Mainline Chemical Root Treatment:</td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>8,926 l.f.</td>
<td>Sewer Mainline Chemical Root Treatment for 8-inch sewers, per linear foot</td>
<td>$ ___________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>(cents)</td>
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<td></td>
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<td>($ ___________ )</td>
<td></td>
</tr>
</tbody>
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<th>Bid Description Unit or Lump Sump Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>3b</td>
<td>246 l.f.</td>
<td>Sewer Mainline Chemical Root Treatment for 10-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<tr>
<td></td>
<td></td>
<td>($</td>
<td></td>
</tr>
<tr>
<td>3c</td>
<td>178 l.f.</td>
<td>Sewer Mainline Chemical Root Treatment for 12-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<td></td>
<td></td>
<td>($</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td><strong>Structural Cured-in-Place Short Liner:</strong></td>
<td></td>
</tr>
<tr>
<td>4a</td>
<td>8 l.f.</td>
<td>Cured-in-place Structural Short Liner for 8-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>($</td>
<td></td>
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</tbody>
</table>

*Quantity assumed for comparison of bids.
<table>
<thead>
<tr>
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<th>Estimated Quantity*</th>
<th>Bid Description Unit or Lump Sump Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4b</td>
<td>4 l.f.</td>
<td>Cured-in-place Structural Short Liner for 10-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<td></td>
<td>(cents)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>($              )</td>
</tr>
<tr>
<td>5</td>
<td>Structural Cured-in-Place Pipe:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>12,241 l.f.</td>
<td>Structural cured-in-place pipe for 8-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<td>(cents)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>($              )</td>
</tr>
<tr>
<td>5b</td>
<td>855 l.f.</td>
<td>Structural cured-in-place pipe for 10-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<td></td>
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<td>(cents)</td>
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<td></td>
<td></td>
<td></td>
<td>($              )</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
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<th>Bid Description Unit or Lump Sump Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>5c</td>
<td>2,348 l.f.</td>
<td>Structural cured-in-place pipe for 12-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(dollars)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>and</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(cents)</td>
</tr>
<tr>
<td>5d</td>
<td>4,542 l.f</td>
<td>Structural cured-in-place pipe for 15-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(cents)</td>
</tr>
<tr>
<td>5e</td>
<td>1,584 l.f.</td>
<td>Structural cured-in-place pipe for 20-inch sewers, per linear foot</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>and</td>
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<td></td>
<td>(cents)</td>
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</tbody>
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<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Service Connection Rehabilitation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6a</td>
<td>48 services</td>
<td>Television inspect and test service connections for 8- to 10-inch sewers, per service</td>
<td>$ ____________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td>and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cents)</td>
<td>($ ____________)</td>
</tr>
<tr>
<td>6b</td>
<td>48 services</td>
<td>Grout service connections for 8- to 10-inch sewers, per service</td>
<td>$ ____________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td>and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cents)</td>
<td>($ ____________)</td>
</tr>
<tr>
<td>6c</td>
<td>3 services</td>
<td>Cut protruding service connection in 8-inch sewers, per service</td>
<td>$ ____________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td>and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cents)</td>
<td>($ ____________)</td>
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</tr>
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<tbody>
<tr>
<td>6d</td>
<td>1 services</td>
<td>Cut protruding service connection in 12-inch sewers, per service</td>
<td>$</td>
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<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<td>(cents)</td>
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<td></td>
<td></td>
<td></td>
<td>($               )</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td><strong>Mobilization:</strong></td>
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<tr>
<td>7a</td>
<td>1 l.s.</td>
<td>Mobilization, lump sum (not more than 5% of Items 1 through 6)</td>
<td>$</td>
</tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td>(cents)</td>
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<td></td>
<td></td>
<td></td>
<td>($               )</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td><strong>Traffic Detail Officers for Traffic Control:</strong></td>
<td></td>
</tr>
<tr>
<td>8a</td>
<td>4,300 hours</td>
<td>Allowances for services of traffic detail officers normal rate, per hour</td>
<td>$189,200.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<td>(cents)</td>
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<td></td>
<td></td>
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<td>($ 44.00        )</td>
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</tr>
</thead>
<tbody>
<tr>
<td>8b</td>
<td>550 hours</td>
<td>Allowances for services of traffic detail officers overtime rate, per hour</td>
<td>$36,300.00</td>
</tr>
</tbody>
</table>

Sixy-Six

(dollars)

and Zero

(cents)

($ 66.00 )

*Quantity assumed for comparison of bids.
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity*</th>
<th>Bid Description Unit or Lump Sump</th>
<th>Price Bid in Both Words and Figures</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ALTERNATE NO. 1 (Items 9 through 10)</td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td></td>
<td><strong>Air Release Manhole Rehabilitation</strong></td>
<td></td>
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</tr>
<tr>
<td>9a</td>
<td>5 each</td>
<td>Epoxy lining of air release and force main manholes, each</td>
<td>$_________________</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($) __________________________</td>
<td></td>
</tr>
<tr>
<td>9b</td>
<td>5 each</td>
<td>Protective wrapping of piping in air release and force main manholes, each</td>
<td>$_________________</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($) __________________________</td>
<td></td>
</tr>
<tr>
<td>9c</td>
<td>1 l.s.</td>
<td>Replace piping in four air release manholes, lump sum</td>
<td>$_________________</td>
<td></td>
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<td></td>
<td></td>
<td>(dollars) and (cents)</td>
<td>($) __________________________</td>
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</tbody>
</table>

*Quantity assumed for comparison of bids.
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity*</th>
<th>Bid Description Unit or Lump Sump</th>
<th>Total in Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>9d</td>
<td>1 l.s.</td>
<td>Replace blind flanges in four air release manholes, lump sum</td>
<td>$ ____________</td>
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<tr>
<td></td>
<td></td>
<td>(dollars)</td>
<td></td>
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<td>and</td>
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<td></td>
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<td>(cents)</td>
<td></td>
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<td></td>
<td></td>
<td>($ ___________________ )</td>
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</tr>
<tr>
<td>10</td>
<td></td>
<td>Mobilization</td>
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<tr>
<td>10a</td>
<td>1 l.s.</td>
<td>Mobilization, lump sum (not more than 5% of Item 9)</td>
<td>$ ____________</td>
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<tr>
<td></td>
<td></td>
<td>(dollars)</td>
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<td>and</td>
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<tr>
<td></td>
<td></td>
<td>(cents)</td>
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<tr>
<td></td>
<td></td>
<td>($ ___________________ )</td>
<td></td>
</tr>
</tbody>
</table>

*Quantity assumed for comparison of bids.
TOTAL OF BASE BID

The computed contract price for BASE BID (Items 1 through 8) inclusive is:

__________________________________________________ Dollars

(In Words)

and __________________________________________ Cents  ($__________)

(In Words)

(In Figures)

TOTAL OF ALTERNATE NO. 1

The computed contract price for ALTERNATE NO. 1 (Items 9 through 10) inclusive is:

__________________________________________________ Dollars

(In Words)

and __________________________________________ Cents  ($__________)

(In Words)

(In Figures)

TOTAL OF BASE BID PLUS ALTERNATE NO. 1

The computed contract price for BASE BID PLUS ALTERNATE NO. 1 (Items 1 through 10) inclusive is:

__________________________________________________ Dollars

(In Words)

and __________________________________________ Cents  ($__________)

(In Words)

(In Figures)

*Quantity assumed for comparison of bids.
All entries shall be made clearly in ink or typewritten. Amounts are to be shown in both words and figures. In case of discrepancy between the prices written in words and those written in figures, the amount shown in words shall govern. In the event there is a discrepancy between the unit prices and the total sum of all of the items (the computed contract price), the unit prices shall govern.

The above unit prices shall include all superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, and all other things necessary to cover the finished work of the several kinds called for.

The Bidder understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts, including General Laws Chapter 30, Section 39M, as amended.

The contract will be awarded to the lowest responsible and eligible bidder for the Base Bid or the Base Bid plus Alternate No. 1.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The time period for holding bids, where Federal approval is not required is 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids and where Federal approval is required, the time period for holding bids is 30 days, Saturdays, Sundays and holidays excluded after Federal approval

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal agreement attached in Section 00500 AGREEMENT.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00200 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bond are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount
at least equal to one hundred percent (100%) of the contract prices in accordance with Section 00540 PERFORMANCE BOND, Section 00542 PAYMENT BOND, and as stipulated in Paragraph 5.01 of Section 00700 GENERAL CONDITIONS of these specifications.

Pursuant to M.G.L. CH. 62C, Sec 49A, the undersigned Bidder certifies under the penalties of perjury that it is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Minority-owned Business Enterprise (MBE), women-owned Business Enterprise (WBE), Disadvantaged Business Enterprise (DBE), and Equal Employment Opportunity policies of the Massachusetts Water Resources Authority (MWRA), Massachusetts Department of Environmental Protection (MassDEP), and the City of Quincy are applicable to this Contract. The Bidder shall comply with all applicable laws and regulations pertaining to nondiscrimination, equal opportunity and affirmative action, including without limitation executive orders and rules and regulations of federal and state agencies of competent jurisdiction. The Bidder shall make positive efforts to achieve: (1) a minority employee work force hour goal of 15.30 percent, (2) a woman employee work force hour goal of 6.90 percent (3) a goal of 7.24 percent participation of Minority-owned Business Enterprise(s), and (4) a goal of 3.60 percent participation of Woman-owned Business Enterprise(s), (5) a goal of 4.20 percent participation of Disadvantaged/Minority Business Enterprise(s), and (6) a goal of 4.50 percent participation of Disadvantaged/Women Business Enterprise(s) within project contracts. All MBEs and WBEs shall be certified by the Commonwealth of Massachusetts under the provisions certified by the Supplier Diversity Office (SDO). At a minimum, MWRA, MassDEP, and the City of Quincy should allow MBEs and WBEs the maximum feasible opportunity to compete for subagreements performed under the project. Disadvantaged Business Enterprise (DBE) goals are applicable to the total dollars paid to the construction contract. The two low General Bidders shall submit completed DBE forms (EEO-DEP-190 & EEO-DEP-191) by the close of business on the third business day after bid opening. Failure to comply with the requirements of this paragraph may be deemed to render a proposal non-responsive. No waiver of any provision of this section will be granted unless approved by the Department of Environmental Protection (MassDEP).
The undersigned Bidder hereby certifies it will comply with the specific affirmative action steps contained in the EEO/AA provisions of this Contract, including compliance with the Disadvantaged Business Enterprise provisions as required under these contract provisions. The contractor receiving the award of the contract shall incorporate the EEO/AA provisions of this contract into all subcontracts and purchase orders so that such provisions will be binding upon each subcontractor or vendor.

The undersigned Bidder hereby certifies that (1) it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and 3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned Bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of
the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the Contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, Section 25C (10) of Chapter 152 (workers’ compensation) or any other applicable debarment provisions of any other Chapter of the General Laws or any rule or regulations promulgated thereunder; and is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

Bidders must fully comply with Subpart C of 2 CFR Part 180 and 2 CFR Part 1532, entitled Responsibilities of Participants Regarding Transactions (Doing Business with Other Persons). Contractors, subcontractors, or suppliers that appear on the Excluded Parties List System at sam.gov are not eligible for award of any contracts funded by the Massachusetts State Revolving Fund.
BID FORM

The Bidder hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that he will comply fully with all laws and regulations applicable to awards made in the Commonwealth of Massachusetts.

The Bidder certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used herein, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

Interest of Officers and Employees of the City of Quincy or Members of the City Council or Other Public Officials: No officer, member or employee of the City of Quincy or its designees or agents, and no member of its governing body, and no other public official of the governing body of the locality or localities in which the project is situated or being carried out, who exercises any functions or responsibilities in the review or approval or the undertaking or carrying out of this project, shall participate in any decisions relating to this Contract, which affects his personal interest or the interest of any corporation, partnership, or association in which he is directly or indirectly interested or have any personal or pecuniary interest, direct or indirect, in this contract or the proceeds thereof.

The undersigned, as Bidder, declares that he has carefully examined the proposed form and has fully informed and satisfied himself as to the existing conditions, the character and requirements of the proposed work, the difficulties attendant upon its execution; and the accuracy of all estimated quantities stated in this bid and that he has carefully read and examined the form of contract, the standard specifications and plans therein referred to, and he proposes and agrees, if this proposal is accepted, that he will contract with the Party of the First Part to provide all necessary labor, equipment, tools, apparatus and other means of construction and to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed and according to the requirements of the City of Quincy as therein set forth and that he will take the payment therefore, the prices stated in the Bid.

The undersigned, as Bidder, declares that he understands that information relative to sub-surface and other conditions, natural phenomena, existing pipes and other structures (surface and/or sub-surface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the structures (surface and/or sub-surface) actually encountered will be the same as those shown on the drawings or in any of the other contract documents, and he agrees that he shall not use or be entitled to use any such information made available to him through the contract documents or otherwise, or obtained by him in his own examination or the site, as a basis or grounds for any claim against the City of the Engineer arising from or by reason or any variance which may exist between the aforesaid information made available to or acquired by him and the sub-surface and/or other conditions, natural phenomena, existing pipes and other structures surface and/or sub-surface) encountered during construction, and that due allowance therefore has been made in this bid.

The undersigned, as Bidder, understands that the quantities of work tabulated in this bid or indicated on the drawings or in the specifications or other contract documents are only approximate and are subject to increase or decrease, as deemed necessary by the Engineer.
The undersigned, as Bidder, agrees that for extra work, if any, performed in accordance with the terms and provisions of the annexed form of Agreement, he will accept compensation as stipulated therein as full payment for such extra work.

If this proposal shall be accepted and the Bidder shall fail to contract as aforesaid and to give a Bond in the sum to be determined as aforesaid with surety satisfactory to the City of Quincy within ten (10) days from the date of the mailing of the Notice of Award from the City of Quincy to him, according to the address herewith given, the City of Quincy may, at its option, determine that the bidder has abandoned the contract, and thereupon this proposal and acceptance thereof shall be null and void, and the certified check or bid submitted covering this proposal shall become the property of the City of Quincy, otherwise said certified check or bid bond shall be returned to the Bidder.

This bid must bear the written signature of the Bidder, or an authorized agent of the bidder. If the bidder is a corporation or a partnership, the bid must be signed by a duly authorized officer of such corporation or partnership, and the title of such an officer must be stated.

The Bidder offers the following information as evidence or qualifications to perform the work as bid in accordance with the requirements of the plans and specifications.
BID FORM

RELEVANT PREVIOUS EXPERIENCE

The Bidder shall list below the relevant prior work experience on similar projects, and give references that will enable the City to evaluate his qualifications to perform the work under this Contract. The length of the relevant experience must be at least 5 years on projects of comparable size and complexity. The evaluation shall be based on prior experience, work performance and level of key personnel skills, and business standing (add additional page if necessary).

I. PROJECTS

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>Project Name</th>
<th>Contract Amount</th>
<th>Design Reference Engineer</th>
<th>Reference Name</th>
<th>Phone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
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<tr>
<td>b.</td>
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<td>c.</td>
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<td>f.</td>
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</tbody>
</table>

II. KEY PERSONNEL:

Key personnel to be employed on the job, in the event of contract award. Attach brief education and experience where applicable.

1.                                                                                       
2.                                                                                       
3.                                                                                       
4.                                                                                       
BID FORM

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the date given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheet. The bidder may submit any additional information, if desired.

1. Name of Bidder:

2. Permanent main office address:
   a. Treasury Number (Employer's Identification No.):

3. When organized?

4. If a corporation, where incorporated?

5. How many years have you been engaged in the contracting business under your present firm or trade name?
   a. Names and home addresses of principal officers and their social security numbers: (attach separate sheet).

6. Contracts on hand: (Schedule these, showing gross amount of each contract and the approximate anticipated dates of completion. Name and address of client and name of person supervising for client.) (Attach separate sheet)

7. General character of work performed by your company?

8. Have you ever failed to complete any work awarded to your? If so, where and why?

9. Have your ever defaulted on a contract? If so, where and why?

10. List the more important contracts recently completed by you stating approximate cost of each, and the month and year completed. (Give names and addresses of client and name of person supervising for client). (See attached form.)

11. List your major equipment available for this contract. (Use separate sheet)

12. Experience in construction work similar in importance to this project. (See form)

13. Background and experience of the principle members of your organization, including the officers.

00300-23
14. Credit available: $__________________.

15. Give bank reference, including bank name, address, telephone and contact name.

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required?

17. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Quincy in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this ________ day of ______________________, 20___.

Name of Bidder:________________________________________

By:__________________________________________________

Title:__________________________________________________

State of __________________________

County of __________________________

________________________________________ being duly sworn,
deposed and says that he is ________________________________

(office)

of _________________________________________________

(Name of Organization)

and that the answers to the foregoing questions and all statements contained therein are true and correct.

SUBSCRIBED AND SWORN TO, before me the _____ day of ______________________, 20___

________________________________________

(Notary Public)

Seal

My commission expires: ________________________________
Signature Authorization

At a duly authorized meeting of the Board of Directors of the

(NAME OF CORPORATION)

held on ___________ at which all the Directors were present or

(DATE)

waived notice, it was VOTED, that:

(NAME)

(OFFICER)

of this company, he and he/she hereby is authorized to execute Contracts and

 Bonds in the name and behalf of said Company, and affix its Corporate Seal

thereeto; and such execution of any Contract or obligation in this Company's

name on its behalf by such

(OFFICER)

under seal of the Company, shall be valid and binding upon this Company. It

was further voted that the City of Quincy may rely on such authorization for

future Contracts until notified to the contrary.

A true copy,

ATTEST: __________________________

(CLERK'S SIGNATURE)

PLACE OF BUSINESS: __________________________

DATE OF THIS CONTRACT: __________________________

I hereby certify that I am the Clerk of the

___________ (COMPANY) that ____________________________ is

(NAME) the duly elected __________________________ (TITLE) of said Company, and

that the above VOTE has not been amended or rescinded and remains in full

force and effect as of the date of this Contract.

(CLERK'S SIGNATURE)

CORPORATE SEAL

REV. 04/93
REV. 12/93
CERTIFICATE OF ACKNOWLEDGEMENT
OF CONTRACTOR FOR BID

State of _______________________________  ] Date: __________________, 20_____  
County of _______________________________

On this ______ day of ____________________________, 20_______,
before me personally appeared ________________________________,

who being duly sworn, did depose and say as follows:

________________________________________, that said firm consists of
(Company Name)

__________________________________________
(name of principals in firm and position)

that he executed the foregoing instrument on behalf of said firm for the uses and purposes stated herein. If a corporation, the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation, and that by like order, he signed thereto his name and official designation.

________________________________________
(Notary Public)

(Seal)

My commissioner expires: ________________________________
SIGNATURE PAGE

DATED: ____________________________________________________________

BY:  ________________________________________________________________
      (Signature and Title of Person Authorized to Sign Bid)

      ________________________________________________________________
      (Name of General Bidder)

      ________________________________________________________________
      (Business Address)

      ________________________________________________________________
      (Social Security Number - Federal Tax ID No.)

Telephone Number: __________________________________________________

(SEAL: IF BID IS BY A CORPORATION)

ATTEST: _____________________________________________________________

The proposed surety company on the bond to be given as follows:

      ________________________________________________________________
      (Contact Name)

      ________________________________________________________________
      (Name of Surety)

      ________________________________________________________________
      (Address of Home Office)

      ________________________________________________________________
      (Massachusetts Address, if different)

      ________________________________________________________________
      (Business Telephone)
SECTION 00300

ATTACHMENT A

MADEP DIESEL RETROFIT PROGRAM
APPENDIX A
DIESEL RETROFIT PROGRAM

The Department of Environmental Protection ("DEP") has developed the Diesel Retrofit Program in response to increasing public health concerns with the emissions from diesel engines and vehicles.

**Diesel Construction Equipment Standard**

All diesel powered non-road construction equipment and vehicles greater than 50 brake horsepower which will be used in the performance of the work under the Contract (hereinafter "Diesel Construction Equipment") must have the following pollution control device installed unless exempt as provided below:

1. Emission control technology verified by U.S. Environmental Protection Agency ("EPA") or the California Air Resources Board ("CARB") for use with non-road engines;
2. Emission control technology verified by EPA or CARB for use with on-road engines provided that such equipment is operated with diesel fuel that has no more than 15 parts per million sulfur content (i.e. Ultra Low Sulfur Diesel fuel); or
3. Emission control technology certified by the manufacturer that such technology meets or exceeds the emission reductions provided by on-road or off-road emission control technology verified by EPA or CARB, i.e. that a Diesel Oxidation Catalyst is achieving the following minimum emission reductions: particulate matter 20%; carbon monoxide 40%; volatile organic compounds 50%; or a Diesel Particulate Filter is achieving a minimum of 85% emission reductions for particulate matter.

Emission control devices, such as oxidation catalysts or particulate filters, shall be installed on the exhaust system side of the Diesel Construction Equipment. The Contractor shall be responsible to insure that the emissions control technology is operated, maintained, and serviced as recommended by the manufacturer.

For the latest up-to-date list of EPA verified-technologies, see:
https://www.epa.gov/verified-diesel-tech
For the latest up-to-date list of CARB verified technologies, see:
http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

**Exemptions**

The following Diesel Construction Equipment shall be exempt from the standard above. The Contractor shall include such Diesel Construction Equipment in the required recordkeeping:

1. Diesel Construction Equipment not owned by the Contractor and used in the performance of the work under this Contract for 30 calendar days (cumulative days but not necessarily consecutive) or less;
2. Unless otherwise exempt, additional Diesel Construction Equipment originally not anticipated to be used under the Contract or used as permanent replacement after the work under the Contract has commenced, for 15 calendars days from the date such Diesel Construction Equipment is brought on site;
3. Diesel Construction Equipment with an engine that meets the EPA particulate matter (PM) Tier emission standards in effect at the start of the Contract for non-road diesel engines for the applicable engine power group (e.g., as of January 1, 2009, a piece of Diesel Construction Equipment with a Tier 3 engine is exempt from meeting the standard until the piece of Diesel Construction Equipment is available with a Tier 4 engine) provided that if such emissions standards are superseded during the Contract then such Diesel Construction Equipment must be retrofitted in accordance with the standards above prior to the end of the Contract;

4. A large crane (e.g., a sky crane or link belt crane which is responsible for critical lift operations) if such device would adversely affect the operation of the crane provided the Contractor submits to the municipality’s project engineer written technical justification documenting the adverse impact on operation; and

5. Diesel Construction Equipment that the project engineer has determined is necessary to control a compelling emergency including but not limited to, the need for rescue vehicles or other equipment to prevent harm to human beings or additional equipment required to address a catastrophic emergency such as structure collapse or imminent collapse. After the compelling emergency is controlled, such non-compliant equipment must be removed from the Contract site and may not be used in further performance of the work under this Contract. Meeting Contract deadlines is not a compelling emergency.

Contractor Certification

Each bidder shall submit as part of its bid, the Statement of Intent to Comply. Within 10 days of being notified that it has been awarded a contract, the bidder and each of its Contractors and Subcontractors shall submit a Diesel Retrofit Program Contractor Certification. Each such Certification shall contain the following information for each piece of Diesel Construction Equipment:

1. Contractor or Subcontractor name;
2. Equipment type, make, model;
3. Vehicle Identification Number or VIN;
4. Engine model and year of manufacture;
5. Engine HP rating;
6. Emission Control Device (ECD) type (Diesel Oxidation Catalyst or Diesel Particulate Filter);
7. ECD make, model, and manufacturer;
8. ECD EPA or CARB Verification Number or manufacturer’s certification that the DOC or DPF meets or exceeds emission reductions provided by similar emission control technology verified by EPA or CARB;
9. ECD installation date;
10. Type of fuel to be used; and
11. Whether the equipment is owned or rented.

Recordkeeping

Each Contractor and Subcontractor shall maintain detailed records of all Diesel Construction Equipment used under the Contract, including the dates and duration times the Diesel Construction Equipment is
used at the Contract site. Records shall be available for inspection by DEP. Each Contractor and Subcontractor shall notify DEP within 48 hours of any new Diesel Construction Equipment brought onto the Contract site.

For Diesel Construction Equipment that has an emissions control device with a manufacturer’s certification, the Contractor shall maintain records of all supporting emissions test data and test procedures. If upon review the emissions reductions are not supported by the test data and test procedures, then the emissions control device may need to be replaced with a compliant retrofit device.

**Project Regulatory Agreement**

The following language shall be included section 4 (Covenants of the Borrower) of the municipality’s Project Regulatory Agreement if it receives funds from the State Revolving Fund:

The Borrower shall require each Contractor and Subcontractor to submit the Diesel Retrofit Program Contractor Certification to DEP and the Borrower prior to commencing work on the Project. The Borrower shall not allow any Contractor or Subcontractor to commence work at the Project site prior to submitting such Certification.
STATEMENT OF INTENT TO COMPLY

This form must be signed and submitted by the bidder as part of the bid.

Local Governmental Unit __________________________ SRF Project No. __________________________

Contract No. __________________ Contact Title __________________________

Bidder __________________________

The undersigned, on behalf of the above-named Bidder, agrees that, if awarded the Contract:

1. the Bidder shall comply with the Department of Environmental Protection’s ("DEP") Diesel Retrofit Program by ensuring that all diesel powered non-road construction equipment and vehicles greater than 50 brake horsepower which will be used in the performance of the work under the Contract are equipped or retrofitted with a pollution control device in accordance with the Diesel Retrofit Program Standard;

2. the Bidder shall require all Subcontractors to comply with DEP’s Diesel Retrofit Program by ensuring all diesel powered non-road construction equipment and vehicles greater than 50 brake horsepower which will be used in the performance of the work under the Contract are equipped or retrofitted with a pollution control device in accordance with the Diesel Retrofit Program Standard; and

3. The Bidder shall submit and shall require each Subcontractor to submit a Diesel Retrofit Program Contractor Certification (form attached) with a Diesel Retrofit List to DEP (NAME and ADDRESS) and the Bidder within 10 days of the bidder being notified that it has been awarded the Contract. The Bidder shall require each Subcontractor to update such Certification and List within 2 days of using additional Diesel Construction Equipment on the project under the Contract.

__________________________  __________________________
(Signature of Bidder’s Authorized Representative)  (Date)
Each Contractor and its Subcontractor(s) must sign and submit this form to DEP DMS project engineer, 5th Floor, MassDEP, One Winter Street, Boston, MA 02108 and the Municipality within 10 days after the Contractor is notified that it is awarded the Contract.

Local Governmental Unit ___________________________ SRF Project No. ______________

Contract No. ___________________________ Contact Title ___________________________

Contractor ___________________________

I, ___________________________, an authorized signatory for ___________________________ do hereby certify that any and all diesel powered non-road construction equipment and vehicles greater than 50 brake horsepower which will be used in the performance of the work under the Contract (hereinafter "Diesel Construction Equipment") have pollution control devices, such as oxidation catalysts or particulate filters, installed on the exhaust system side of the diesel combustion engine equipment in accordance with the Diesel Retrofit Program Standard.

I am submitting on behalf of ___________________________ a list of all said Diesel Construction Equipment, labeled "Diesel Retrofit List," that will be used in connection with this Contract by ___________________________. I hereby certify that the information on the attached Diesel Retrofit List is correct and accurate as of the date of signature. The List includes the following information for each piece of Diesel Construction Equipment:

1. Equipment type, make, model;
2. Vehicle Identification Number or VIN;
3. Engine model and year of manufacture;
4. Engine HP rating;
5. Emission Control Device ("ECD") type (Diesel Oxidation Catalyst or Diesel Particulate Filter);
6. ECD make, model, and manufacturer;
7. ECD EPA or CARB Verification Number or manufacturer's certification that the DOC or DPF meets or exceeds emission reductions provided by similar emission control technology verified by EPA or CARB;
8. ECD installation date;
9. Type of fuel to be used; and
10. Whether the equipment is owned or rented.
shall notify DEP within 48 hours of any new Diesel Construction Equipment brought onto the Contract site. ________________ shall maintain detailed records of all Diesel Construction Equipment used at the Contract site, including the dates and duration times the Diesel Construction Equipment is used at the Contract site. ________________ shall make such records available for inspection by DEP. ________________ shall ensure that the emissions control technology for each piece of Diesel Construction Equipment is operated, maintained, and serviced as recommended by the manufacturer. ________________ shall retrofit prior to the end of the Contract any Diesel Construction Equipment no longer exempt from meeting the Diesel Construction Equipment Standard under exemption 3 (because it had an engine that met the EPA particulate matter (PM) Tier emission standards currently in effect at the start of the Contract for non-road diesel engines for the applicable engine power group and such emissions standards were superseded during the Contract).

I acknowledge that this certificate is being furnished as a requirement under this Contract and is subject to applicable State and federal laws, both criminal and civil. Signed under pains and penalty of perjury on this date ________________.

Signature______________________________

Name: ________________________________

Title: ________________________________
BID BOND

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned, ________________________
______________________________ as Principal and
______________________________ as Surety, are hereby held and firmly bound unto
The City of Quincy ______ as OWNER in the penal sum of ______________________
for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves,
successors and assigns ________________________.

Signed this ______ day of _________________, 20____.

The Condition of the above obligation is such that whereas the Principal has submitted to:
______________________________ a certain BID, attached hereto and hereby made a part hereof
to enter into a contract in writing for the:

NOW, THEREFORE,

(A) If said BID shall be rejected, or

(B) If said BID shall be accepted and the Principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said
BID) and shall furnish a BOND for his faithful performance of said contract, and for
the payment of all persons performing labor, or furnishing materials in connection
therewith, and shall in all other respects perform the agreement created by the
acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall,
in no event, exceed the penal amount of this obligation as herein stated.

00305-1
The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall in no way be impaired or affected by any extension of the time within which the OWNER may accept such BID, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these present to be signed by their proper officers the day and year first set forth above.

_______________________________ (L.S.)
Principal

_______________________________
Surety

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Cir. 570, as amended) and be authorized to transact business in the state where the project is located.
REQUIREMENTS FOR MINORITY/WOMEN BUSINESS ENTERPRISE

I. The percentage goal of business activity to be performed by Minority/Women Business Enterprise(s) shall be the following percentages of the total contract price, or the percentage submitted by the contractor in the Schedule of Participation, whichever is greater.

<table>
<thead>
<tr>
<th>Minority Contractors</th>
<th>Women Contractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.3 %</td>
<td>6.9 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minority Owned Business Enterprise</th>
<th>Women Owned Business Enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.24 %</td>
<td>3.6 %</td>
</tr>
</tbody>
</table>

The percentage goal of business activity to be performed by Disadvantaged/Minority/Women Business Enterprise(s) shall be the following percentages of the total contract price.

| Disadvantaged/Minority Business Enterprise | 4.2 % |
| Disadvantaged/Women Business Enterprise   | 4.5 % |

II. DEFINITIONS

For the purpose of these provisions, the following terms are defined as follows:

A. **Agency**: The City of Quincy.

B. **Bidder**: Any individual, partnership, joint venture, corporation, or firm submitting a price, directly or through an authorized representative, for the purpose of performing construction related activities under a contract.

C. **Certificate of Work Start-Up**: A letter to be signed by a principal contractor prior to performance of work by Minority and Women Business Enterprises under a Contract (See attached form EEO-390 located in Section 00550 of this Manual).

D. **Compliance Unit**: A subdivision of the Agency's Affirmative Action Office designated to ensure compliance under these provisions.

E. **Contract Compliance Officer**: The person(s) designated by the Agency to assist and make recommendations with respect to compliance with the provisions of this document.

F. **Contractors**: Any business that contracts or subcontracts for construction, demolition, renovation, survey, or maintenance work in the various classifications customarily used in work and that is acting in this capacity under the subject contract.
G. **Construction Related Services:** Those services performed at the work site ancillary to, and/or in support of, the construction work, such as hauling, trucking, equipment operation, surveying or other technical services, etc. For the purposes hereof, supply and delivery of materials (e.g. pre-cast concrete elements) to the site by a supplier who has manufactured those goods, or substantially altered them before re-sale shall be considered as "construction related services".

H. **Construction Work:** The activities at the work site, or labor and use of materials in the performance of constructing, reconstructing, erecting, demolishing, altering, installing, disassembling, excavating, etc., all or part of the work required by the Contract Documents.

I. **Disadvantaged Business Enterprise (DBE):** An entity owned or controlled by a socially and economically disadvantaged individual as described by Public Law 102-389 (42 U.S.C. 4370d) or an entity owned and controlled by a socially and economically disadvantaged individual as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. note); a Small Business Enterprise (SBE); a Small Business in a Rural Area (SBRA); or a Labor Surplus Area Firm (LAF), a Historically Underutilized Business (HUB), Zone Business Concern, or a concern under a successor program.

J. **Equipment Rental Firm:** A firm that owns equipment and assumes actual and contractual responsibility for renting said equipment to perform a useful function of the work of the contract consistent with normal industry practice.

K. **Grantee:** An agency, person or political subdivision which has been awarded or received financial assistance by the Trust or the Agency.

L. **Joint Venture:** An agreement between SDO certified M/WBE and a non-minority or non-woman, controlled enterprise.

1. A pairing of companies will be considered a MBE or WBE joint venture if the SDO certified M/WBE, which is part of the relationship has more than 51% of the profits that are derived from that project.

2. A joint venture between a certified M/WBE, subcontractor and a non-M/WBE subcontractor, in which the M/WBE for that proportion joint venture's contract equal to the M/WBE participation in the joint venture.

3. Whenever a general bid is filed by a joint venture with a certified M/WBE participant in the joint venture that does not exercise more than 51% control over management and profits, that joint venture shall be entitled to credit as a
M/WBE for that portion of the joint venture's contract equal to the M/WBE participation in the joint venture Minority. As deemed by SDO.

M. Letter of Intent: Certified document signed by the principal(s) of the Minority or Women Business Enterprise with respect to the work to be performed under the contract.

N. Local Government Unit: A City, Town, or municipal district which applies for a loan or grant from a State or Federal Agency.

N. Material Supplier: A vendor certified by SDO as a M/WBE in sales to supply industry from an established place of business or source of supply, and that vendor.

1. Manufacturers goods from raw materials, or substantially utilizes them in the work, or substantially alters them before resale, entitling the general contractor to M/WBE credit for 100% of the purchase order.

2. Provides and maintains a storage facility for materials utilized in the work, entitling the general contractor to M/WBE credit for 100% of the purchase order.

O. M/WBE Quarterly Activity Report: A letter to be signed by a principal contractor with respect to certain work performed by Minority and Women Business Enterprises under a Contract (See Attached Form EEO-DEP-390E located in Section 00550 of this Manual).

P. Minority and Women Business Enterprise (M/WBE): Any business concern certified by SDO as a bona fide M/WBE. A bona fide M/WBE is a business whose minority group or women ownership interests are real, which have at least 51% ownership and control over management and operations.

Q. Percent of Total Price: Is the percentage to be paid to the M/WBE, work they perform, as compared to the total bid price.

R. SDO: The Supplier Diversity Office.

S. Total Contract Price: The total amount of compensation to be paid for all materials, work or services rendered in the performance of the contract.

III. REQUIREMENTS FOR CONTRACT AWARD

A. As part of the contract bid documents, the contractor shall submit a schedule with accompanying letters of intent on the appropriate forms (see forms EEO-DEP-190C and EEO-DEP-191C located in Section 00310 of this Manual). The letter of intent shall include,
among other things, a reasonable description of the work the M/WBE is proposing to perform and the prices the M/WBE proposes to charge for the work.

A letter of intent shall be jointly signed by the M/WBE and the primary contractor who proposes to use them in the performance of the Contract. The schedule shall list the M/WBEs with whom the contractor intends to subcontract and state the total price to be paid to each M/WBE as taken from each letter for intent submitted under this subsection.

B. As part of the bid proposal, the bidder shall submit a Schedule of Participation on the form attached and shall list those M/WBEs the contractor intends to use in fulfilling the contract obligations, the nature of the work to be performed by each M/WBE subcontractor and the total price they are to be paid.

1. A listing of bona fide service such as a professional, technical, consultant or managerial services, assistance in the procurement of essential personnel, facilities, equipment, or supplies required for performance of the Contract and reasonable fees or commissions charged.

2. A listing of haulers, truckers, or delivery services, not the contractors, including reasonable fees for delivery of said materials or supplies to be included on the project.

C. As part of the contract bid documents, the contractor shall submit the SDO "Minority and Women Certification" as prepared by each M/WBE.

IV. REQUIREMENTS FOR MODIFICATION OR WAIVERS

The bidder shall make every possible effort to meet the minimum requirements of M/WBE participation. If the percentage goals of M/WBE participation submitted by the bidder on its Schedule of Participation (EEO-DEP-190C located in Section 00310 of this Manual) does not meet the minimum requirements, the bid may be rejected and/or found not to be eligible for award of the contract, unless the bidder is granted a waiver pursuant to this section.

In the event that a bidder is unable to meet the minimum M/WBE percentage goals, the bidder may submit a Request for Waiver (EEO-DEP-490C located in Section 00310 of this Manual). The Agency in conjunction with the project manager, Affirmative Action and Compliance Unit, will make an assessment of the bidder's application for a waiver.

Within five (5) working days following the bid opening, the bidder must submit by registered mail to the Agency detailed information as specified below to establish that they have made a good faith effort to comply with the percentage goals specified in EEO-DEP-190C. In addition, the bidder must show that such efforts were undertaken will in advance of the time set for the opening of the bids to

00310-4
allow adequate response. If the information and documentation demonstrates that despite such efforts the bidder was/is unable to meet the M/WBE participation requirements, a waiver request may be submitted which provides the following:

A. A detailed record of the effort made to contract and negotiate with minority and/or women businesses, including:
   1. names, addresses and telephone numbers of all such companies contacted;
   2. copies of written notice(s) which were sent to M/WBE potential subcontractors, prior to bid opening;
   3. a detailed statement as to why each subcontractor contacted (I) was not willing to do the job or (ii) was not qualified to perform the work as solicited; and
   4. in the case(s) where a negotiated price could not be reached, the bidder should detail what efforts were made to reach an agreement on a competitive price;
   5. copies of advertisement, dated not less than ten days prior to bid opening date, as appearing in general publications, trade oriented publications, and applicable minority/women-focuses media detailing the opportunities for participation.

B. The Agency may require the bidder to produce such additional information as it deems appropriate.

C. No later than fifteen (15) days after submission of all required information and documentation, a decision as to whether a waiver will be granted will be made in writing to the bidder. If the waiver request is denied, the facts upon which a denial is based will be set forth in writing. A bidder, who is dissatisfied with the decision, may appeal that decision.

D. If it is determined that one or more of the M/WBE contractors submitted by the bidder on form EEO-190 is not SDO certified, the bidder shall have ten (10) working days, following notification to either find a certified M/WBE to perform work equal to or greater than that of the uncertified contractor or to submit a required for waiver pursuant to this section.

V. M/WBE PARTICIPATION

A. Reporting Requirements
   1. The contractor is required to submit Quarterly M/WBE Activity Report within ten (10) days following the reporting period. These reports shall include all minority and women businesses performing work on the project during the reporting period (See Attached Form EEO-DEP-390E located in Section 00550 of this Manual). For
auditing and accounting purposes, the General Contractor periodically may be required to submit copies of canceled checks verifying that payments have been made to the M/WBE as listed on the schedule.

2. The contractor is required to submit a completed Certificate of Work Start-Up by Minority and Women Business Enterprise within ten (10) days of work start-up for each M/WBE identified in the “Schedule of Participation of MBEs and WBEs or working on the contract activity. The form must be signed by both the contractor and the M/WBE prior to submittal to the Agency. (See attached form in Section 00550 of this Manual).

3. The contractor shall not perform any work designated for the named M/WBE on the Schedule submitted under Part I hereof, with its own organization or subcontractor(s) or any other contractor, without the prior written approval of the Agency.

4. During the life of the contract, the contractor's fulfillment of the percentage requirements in Part I shall be determined with reference to the contract price as follows:

   a. If the price in the contract executed exceeds the base bid price (e.g. because an alternate was selected or because unit prices were used in awarding the contract), the contractor shall submit for approval by the agency a revised Schedule of Participation by MBEs and WBEs satisfying the percentage requirements and such other information concerning additional M/WBE participation as may be requested by the Agency.

   b. If the contract price increases after execution due to change orders or other adjustments, the Agency may require the contractor to subcontract additional work to or to purchase additional goods and services from MBEs and WBEs up to the percentages stated in Part I.

VI. COMPLIANCE

A. If the Schedule or any of the Letters of Intent are materially incomplete, the Local Government Unit may rescind its vote of award, treat the bid informal as to substance and reject the bid. If the bid is incomplete in any other respect than the Schedule, the Local Government Unit, with the approval of the Agency may waive the informalities upon satisfactory completion of the required information by the Contractor and the M/WBE, as applicable.

B. If the Local Government Unit finds that the percentage of M/WBE participation submitted by the contractor on its Schedule does not meet the requirements in Part I, it may rescind its vote of award and find such contractor not to be eligible for award of the contract.
C. The contractor shall not perform with its own organization, or subcontract to any other primary or subcontractor any works designated for the names M/WBEs on the schedule submitted by the prime contractor under Part III without the approval of the Agency.

D. A contractor's compliance with the percentage requirements in Part I shall continue to be determined by reference to the required percentage of the total contract price as stated in Section I, even though the total of actual contract payments may be greater or less than the bid price.

E. If the general contractor, for reasons beyond its control, cannot comply with Part III, in accordance with the Schedule submitted under Part III, section B, the contractor must submit to the Compliance Unit as soon as they are aware of the deficiency, the reason for its inability to comply. Proposed revisions to the Schedule stating how the contractor intends to meet its obligations under these conditions must be submitted within ten (10) working days of notification.

F. Any change or substitution of the officers or stockholders in an M/WBE organization that reduces the ownership or control to under 51% by minority person(s)/Women or less than the requisite percentage, shall be grounds for immediate rescission of the M/WBE status. Contractor's compliance with this special provision obligation will be considered terminated immediately upon notification that the M/WBE designation has been rescinded, and the Contractor shall proceed by notifying SDO and the Compliance Unit as stated above in subsection (C).

G. If an M/WBE listed by the general bidder in its Schedule of M/WBE contractors fails to obtain a performance or payment bond requested by the general bidder, said failure shall not entitle the bidder to avoid the requirements of Part III (A). After a general bidder has been awarded to contract, he shall not change the M/WBE listed in its Schedule at the time of award or make any other such substitution without the written approval of the Agency.

H. The contractor and the M/WBEs shall comply with all reporting requirements of the Compliance Unit to demonstrate ongoing compliance with the Schedule of Participation and the Letters of Intent.

VII. EQUAL EMPLOYMENT OPPORTUNITY FOR THE HANDICAPPED

The contractor shall comply with the provisions of the Executive Order No. 143 entitled "Equal Employment Opportunity for the Handicapped" which is herein incorporated by reference and made a part of this contract. In connection with the performance of work under this contract, the contractor, sub-contractors and suppliers of goods and services must give written notice of their commitments under this Article to any Labor Union, association or brotherhood with which they have a collective bargaining contract or other agreement. A
copy of such notice must be furnished to the Grantee at the time of signing of the contract.

VIII. SANCTIONS

A. If the contractor does not comply with the terms of these Special Provision, the Awarding Authority may (1) suspend any payment for the work that should have been performed by a M/WBE pursuant to the schedule, or (2) require specific conformance of the contractor's obligations by requiring the contractor to subcontract with a M/WBE for any contract or specialty item at the contract price established for that item in the proposal submitted by the Contractor.

B. To the extent that the contractor has not complied with the terms of these Special Provisions, the Awarding Authority may retain in connection with Estimates and Payments an amount determined by multiplying the bid price of this contract by the percentage in Section I, less the amounts paid to M/WBEs for work performed under the contract and any payments already suspended under VIII A.

C. In addition or as an alternative, to the remedies under VIII-A and B, the Awarding Authority may suspend, terminate or cancel this contract, in whole or in part, or may call upon the contractor's surety to perform all terms and conditions in the contract, unless the contractor is able to demonstrate his compliance with the terms of these Special Provision, and further deny to the contractor, the right to participate in any future contracts awarded by the Awarding Authority for a period of up to three years.

D. In any proceeding involving the imposition of sanctions by the Awarding Authority, no sanctions shall be imposed if the Awarding Authority finds that the contractor has taken every possible measure to comply with these

Special Provisions or that some other justifiable reason exists for waiving these Special Provisions in whole or in part.

E. The contract shall provide such information as is necessary in the judgement of the Awarding Authority to ascertain its compliance with the terms of these Special Provisions.

IX. HEARINGS AND APPEALS

A. No sanctions under Section VIII shall be imposed by the Awarding Authority except in an adjudicatory proceeding under Chapter 30A of the Mass. General Laws.

B. A contractor shall have the right to request suspension of any sanctions imposed under Section VIII upon demonstrating that he is in compliance with these Special Provisions.
SCHEDULE OF PARTICIPATION FOR SRF CONSTRUCTION

Project Title: ______________________________________________ Project Location: ____________________________________________

Disadvantaged Minority Business Enterprise Participation in the SRF Loan Work

<table>
<thead>
<tr>
<th>Name &amp; Address of D/MBE</th>
<th>Nature of Participation</th>
<th>Dollar Value of Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
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<td></td>
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</tbody>
</table>

Total D/MBE Commitment: $ __________

Percentage D/MBE Participation = (Total D/MBE Commitment) / (Bid Price) = __________ %

Disadvantaged Women Business Enterprise Participation in the SRF Loan Work

<table>
<thead>
<tr>
<th>Name &amp; Address of D/WBE</th>
<th>Nature of Participation</th>
<th>Dollar Value of Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total D/WBE Commitment: $ __________

Percentage D/WBE Participation = (Total D/WBE Commitment) / (Bid Price) = __________ %

The Bidder agrees to furnish implementation reports as required by MassDEP to indicate the D/MBEs and D/WBE(s) which it has used or intends to use. Breach of this commitment constitutes a breach of the contract.

Name of Bidder: ________________________________________________

Date: ________________ By: ________________________________________ Signature ____________________________

NOTE: Participation of a DBE may be counted in only their certified category; the same dollar participation cannot be used in computing the percentage of D/MBE participation and again of D/WBE participation.
LETTER OF INTENT FOR SRF CONSTRUCTION

This form is to be completed by the D/MBE and D/WBE and must be submitted by the Bidder no later than close of business on the third business day after notification by the LGU. A separate form must be completed for each D/MBE and D/WBE involved in the project.

Project Title: ___________________________ Project Location: ___________________________

TO: ____________________________________
    (Name of Bidder)

FROM: __________________________________
    (Please Indicate Status [ ] D/MBE or [ ] D/WBE)

[ ] I/we intend to perform work in connection with the above project as (check one):
[ ] An individual  [ ] A partnership
[ ] A corporation  [ ] A joint venture with: ___________________________
[ ] Other (explain): ___________________________

[ ] It is understood that if you are awarded the contract, you intend to enter into an agreement to perform the activity described below for the prices indicated.

<table>
<thead>
<tr>
<th>Description of Activity</th>
<th>Date of Project Commencement</th>
<th>$ Amount</th>
<th>% Bid Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$</td>
<td>%</td>
</tr>
</tbody>
</table>

[ ] The undersigned certify that they will enter into a formal agreement upon execution of the contract for the above referenced project.

<table>
<thead>
<tr>
<th>BIDDER</th>
<th>DBE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>(Authorized Original Signature)</td>
<td>Date</td>
</tr>
<tr>
<td>ADDRESS:</td>
<td>ADDRESS:</td>
</tr>
<tr>
<td>TELEPHONE #:</td>
<td>TELEPHONE #:</td>
</tr>
<tr>
<td>FEIN:</td>
<td>FEIN:</td>
</tr>
<tr>
<td>EMAIL ADDRESS:</td>
<td>EMAIL ADDRESS:</td>
</tr>
</tbody>
</table>

ORIGINALS:
[ ] Compliance Mgr. City/Town Project Location
[ ] DEP Program Manager for DEP's AAO Director

* Attach a copy of current (within 2 years) DBE Certification
For the SRF program, under the EPA Disadvantage Business Enterprise (DBE) Rule, a DBE must be owned or controlled by a socially and economically disadvantaged person that is also a **citizen of the United States** *(See 40 CFR 33.202).* “Ownership” is defined at 13 CFR 124.105 and “control” is defined at 13 CFR 124.106.

DBEs are certified for the SRF program through the Supplier Diversity Office using the federal Department of Transportation (DOT) DBE rules. EPA allows the use of DBEs certified under the DOT rules as long as they are also United States citizens. To ensure compliance with the EPA rule, MassDEP must verify United States citizenship through the completion of the following form for each DBE used on the project.

SRF Project Number _____________________

Contract Number _____________________

Contract Title
________________________________________

DBE Subcontractor
________________________________________

The undersigned, on behalf of the above named DBE subcontractor, hereby certifies that the DBE firm is either owned or controlled by a person or persons that are citizens of the United States.

________________________________________
Printed Name and Title of DBE Signatory

________________________________________
DBE Signature

________________________________________
Date
The United States Environmental Protection Agency (EPA) requires that this form be provided to all subcontractors on the project. At the option of the subcontractor, this form may be filled out and submitted directly to the EPA DBE Coordinator.

<table>
<thead>
<tr>
<th>NAME OF SUBCONTRACTOR</th>
<th>PROJECT NAME</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ADDRESS</th>
<th>CONTRACT NO.</th>
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</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>TELEPHONE NO.</th>
<th>E-MAIL ADDRESS</th>
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<td></td>
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<table>
<thead>
<tr>
<th>PRIME CONTRACTOR NAME:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Please use the space below to report any concerns regarding the above EPA-funded project (e.g., reason for termination by prime contractor, late payment, etc.).

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

<table>
<thead>
<tr>
<th>CONTRACT ITEM NO.</th>
<th>ITEM OF WORK OR DESCRIPTION OF SERVICES RECEIVED FROM THE PRIME CONTRACTOR</th>
<th>AMOUNT SUBCONTRACTOR WAS PAID BY PRIME CONTRACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subcontractor Signature _______________________________________________________________________
Title/Date

Equivalent to EPA form 6100-2
REQUEST FOR WAIVER FOR SRF CONSTRUCTION

Upon exhausting all known sources and making every possible effort to meet the minimum requirements for DBE participation, the Bidder may seek relief either partially or entirely from these requirements by submitting a completed waiver package by the close of business on the third business day after notification by the LGU. Failure to comply with this process shall be cause to reject the bid thereby rendering the Bidder not eligible for award of the contract.

General Information

Project Title: ____________________________ Project Location: ____________________________

Bid Opening (time/date) ____________________________

Bidder: ____________________________

Mailing Address: ____________________________

Contact Person: ____________________________ Telephone No. (_____) Ext. ______

Minimum Requirements

The bidder must demonstrate that good faith efforts were undertaken to comply with the percentage goals as specified. The firm seeking relief must show that such efforts were taken appropriately in advance of the time set for opening bid proposals to allow adequate time for response(s) by submitting the following:

A. A detailed record of the effort made to contact and negotiate with disadvantaged minority and/or woman owned businesses, including:

1. names, addresses, telephone numbers and contact dates of all such companies contacted;

2. copies of written notice(s) which were sent to DBE potential subcontractors prior to bid opening;

3. a detailed statement as to why each subcontractor contacted (i) was not willing to do the job or (ii) was not qualified to perform the work as solicited; and

4. in the case(s) where a negotiated price could not be reached the bidder should detail what efforts were made to reach an agreement on a competitive price.

5. copies of advertisements, dated not less than ten (10) days prior to bid opening, as appearing in general publications, trade-oriented publications, and applicable minority/women-focused media detailing the opportunities for participation;

June 2012

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(Page 1)
B. MassDEP may require the bidder to produce such additional information as it deems appropriate.

C. No later than fifteen (15) days after submission of all required information and documentation, MassDEP shall make a determination, in writing, whether the waiver request is granted and shall provide that determination to the bidder and Awarding Authority. If the waiver request is denied, the facts upon which a denial is based will be set forth in writing.

CERTIFICATION

The undersigned herewith certifies that the above information and appropriate attachments are true and accurate to the best of my knowledge and that I have been authorized to act on behalf of the bidder in this matter.

________________________________________  ______________________
(authorized original signature)                  DATE

MAILING INSTRUCTIONS: (CERTIFIED MAIL)

TO:          DEP-DMS PROGRAM MANAGER
             ONE WINTER STREET – 5TH FLOOR
             BOSTON, MA 02108-4747

CC:          DEP - CRU DIRECTOR
             ONE WINTER STREET - 4TH FLOOR
             BOSTON, MA 02108-4747
STATE REVOLVING FUND LOAN PROGRAM – SCHEDULE OF SUBCONTRACTOR PARTICIPATION

Local Governmental Unit ____________________________

Project Name ______________________________________

SRF Identification Number ___________________________

General Contractor _________________________________

Contract Value ___________________________________

The United States Environmental Protection Agency (EPA) requires that all SRF borrowers develop and maintain a list of all MBE/WBE and non MBE/WBE subcontractors on the project. This form must be completed and returned to MassDEP within 90 days of award of the contract.

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<tr>
<th>Subcontractor</th>
<th>Point of Contact</th>
<th>Mailing Address</th>
<th>Telephone Number</th>
<th>E-Mail Address</th>
<th>MBE</th>
<th>WBE</th>
<th>DBE</th>
<th>Subcontract Value</th>
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00310-15
RIGHT-TO-KNOW LAW

A bidder will not be eligible for award of this contract under this invitation for bids unless such bidder has submitted as part of its bid the following certification which will be deemed a part of the resulting contract.

CERTIFICATION

The Bidder hereby certifies that, if awarded this contract, he will fully comply with the Massachusetts Right-To-Know Law, c.470 of the Acts of 1983, (the Act). In addition, he shall:

1. obtain a Material Safety Data Sheet (MSDS), for all substances or mixtures of which appear on the Massachusetts Substance List that he or any of his subcontractors brings to or uses on the worksite and will keep a copy of the MSDS on the worksite of this contract;

2. label each container of a substance or mixture of substances on the Massachusetts Substance List, as required, in section 7 of the Act;

3. provide the same training and non-technical instruction that he is required to provide under section 15 of the Act to all Quincy personnel. Training shall include instructing on the nature and effects of any substance or mixture of substances listed on the Massachusetts Substance List which the Bidder or any of his subcontractors brings to or uses on the worksite.

4. provide to Quincy DPW employees on the worksite the same protective equipment that the bidder or any of his subcontractors provides to his employees.

__________________________
Signature of Authorized Representative of Bidder

Bidder's Name: __________________________________________

Bidder's Address: ________________________________________
NON-COLLUSION AFFIDAVIT

A bidder will not be eligible for award of this contract under this invitation for bids unless such bidder has submitted as part of its bid the following certification which will be deemed a part of the resulting contract.

State of ______________________________  Date: __________________  20____
County of ____________________________

The undersigned being duly sworn, deposes and says that he is the:

________________________________________________________________________________
(sole owner, partner, president, treasurer, or other duly authorized official)

Of ____________________________________________
(name of company - bidder - as appears in submitted proposal)

for work in ______________________________ on ______________________________
(City/Town) (Bid Opening Date)

and certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

________________________________________
Signature/Title of Person Making Affidavit

Sworn to before me this:

_______________ day of _______________________________ 20____

________________________________________
(Notary Public)

My commission expires: ______________________________ 20____
CERTIFICATION OF NON-SEGREGATED FACILITIES

The Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under this control, where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000.00 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his file.

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. ss.1001.

Date:____________________, 20____

__________________________
(Name of Bidder)

Official Address (including Zip Code) By:__________________________

__________________________
(Title)

00315-3
AFFIDAVIT REGARDING PRIOR LABOR DISPUTES

The Bidder must execute and complete the following statements as to whether it has been the subject of, or otherwise been involved in, any labor dispute during the past five (5) years. If the Bidder has been the subject of, or otherwise been involved in any labor dispute during this period, the bidder must also provide a detailed description of each labor dispute, including the name and location of the project worked on, the nature of the dispute was resolved. For these purposes, "labor disputes" shall include picketing or any other activity which disrupted or delayed the work.

I ________________________________, being first duly sworn, do hereby depose/state:

(Name)

1. I make each of the following statements with full authorization to bind
   ________________________________ to each of the representations made below.
   (Name of Bidder)

2. ________________________________ has/has not been involved in a labor dispute
   (Name of Bidder)

   as described above, within the past five (5) years.

3. (Complete only if bidder has been involved in dispute).

   The dispute(s) occurred on the following project(s). (Use separate sheet if necessary)

<table>
<thead>
<tr>
<th>Name and Location of Project</th>
<th>Date Dispute Began</th>
<th>Date Concluded</th>
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<tbody>
<tr>
<td>a. __________________________</td>
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<td>b. __________________________</td>
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   Attach separate sheet and give full description of the nature of each dispute and an explanation of how it was resolved. (Please give a full description below, for each such dispute).

Signed under the penalty of perjury this ______ day of ______________, 20____.

BY: ________________________________

on behalf of: ________________________________

(company name)
PART I - GENERAL

1.01 PURPOSE:

A. PURPOSE OF LOGS:

1. The purpose of the TV Inspection and Manhole Inspections was to determine the condition of the existing sewer system and assess the extent of cleaning, repairs and/or replacement required for the system.

2. The inspections and observations provided information to prepare the design specifications included in these contract documents and to meet the requirements of the Owner.

3. Information reported from the TV Inspection and Manhole Inspections are those observed in the field at the particular location and time the observations were made, and do not necessarily represent the present conditions.

1.02 SCOPE:

A. TV INSPECTION LOGS:

1. Television Inspection of existing pipelines has been performed, with reasonable care. The results of the inspection program are appended hereto and are a part of the Contract Documents. Videos of what was encountered at the time of the inspection may be seen by appointment, upon request, during the bidding period at the office of Weston & Sampson Engineers, Inc., 5 Centennial Drive, Peabody, Massachusetts. Contractors may, after obtaining Owner’s permission, carry out additional pipeline inspection, at no expense to the Owner.

2. Television Inspection Logs provided in the Contract Documents are limited by the methods used for obtaining and expressing such data, and is subject to various interpretations. The terms used to describe conditions encountered are subject to local usage and individual interpretation.

3. Information presented in the inspection logs, as to the pipe condition, material build up in the pipe; etc. is based on visual observation from the videos. Information reported on the TV Inspection logs are those observed in the field at the particular location and at the time the videos were taken, and do not necessarily represent the present conditions. Condition of the pipeline, material build up in the pipe, and other...
factors may differ now from those originally observed. Contractors should be aware that present conditions might affect methods of construction.

B. MANHOLE INSPECTION LOGS

1. Manhole Inspections of existing manhole structures have been performed, with reasonable care. The results of the inspection programs are appended hereto and are a part of the Contract Documents. Contractors may, after obtaining Owner’s permission, carry out additional manhole inspections at no expense to the Owner.

2. Manhole Inspection Logs provided in the Contract Documents are limited by the methods used for obtaining and expressing such data, and is subject to various interpretations. The terms used to describe conditions encountered are subject to local usage and individual interpretation.

3. Manhole Inspection Logs have been taken substantially at the locations indicated on the drawings and shown on the logs. Information presented in the inspection logs, as to extent of manhole failure, infiltration rates; material build up in the manholes; etc. is based on visual observation. Information reported on the Manhole Inspection Logs is those observed in the field at the particular location and at the time observations were made, and do not necessarily represent the present conditions. Condition of the manholes, infiltration rates, and material build up in the manholes, and other factors may differ now from those originally observed. The Contractors should be aware that present conditions might affect methods of construction.

PART II – MATERIALS – NOT APPLICABLE

PART III. EXECUTION

3.01 EXECUTION:

A. Television and Manhole Inspection Logs are for the general information of the Contractors. The Contractors are obligated, to examine the site, records of investigations and other data pertinent to the site, and then, based upon their own interpretations and investigations, decide the character and quantity of material to be encountered, the difficulties or obstacles likely to be encountered, and other conditions affecting the work. The Television and Manhole Inspection Logs are accurate only at the particular locations and times the original inspections were made. No other warranty, either expressed or implied, by the Owner, Engineer or their agents is made to the accuracy of the information contained on TV Inspection Logs, Manhole Inspection Logs, or other data shown on the drawings or presented in the Contract Documents.

END OF SECTION
NOTICE OF AWARD

TO:______________________________
_______________________________
_______________________________

PROJECT TITLE: Wollaston Beach Area SSES Rehabilitation Project Phase II
The City has considered the Bid submitted by you for the above described work in response to its Advertisements for Bids and Information for Bidders. You are hereby notified that your Bid in the amount $_____________________________ has been accepted, provided you furnish the City with the required Certificates, Affidavits, Contractor's Performance and Payments Bonds and Certificate of Insurance within ten (10) days receipt of this notice to execute the Agreement. In case of failure to execute said Agreement and to furnish said bonds and documents as stipulated in the Bid Documents within ten (10) days from the date of receipt of this Notice, the City will be entitled to consider all your rights arising out of the City's acceptance of your Bid as abandoned and as a forfeiture of your bid bond. The City will also be entitled to such other rights as may be granted by law. You are required to return an acknowledged copy of the Notice of Award to the City.

Dated this the ______ day of ____________________, 20______.

BY:_____________________________

Name: Al Grazioso ______
Title: Commissioner of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

___________________________________________
(Company Name)

Signature: ______________________________ Date: ______________________________

Print Name: ___________________________ Title: ___________________________

\wse03.local\WSE\Projects\MA\Quincy MA\2160808 Wollaston Beach and NW Quincy Rehab Design\Design\SPEC\SPECS\PHASE II\00410 - Notice of Award.doc
AGREEMENT

THIS AGREEMENT made as of the _____ day of ____________________ in the year 2018 by and between the City of Quincy, Massachusetts, acting through its Department of Public Works, hereinafter called the “City” and with legal address and principle place of business at __________________________ hereinafter called the "Contractor". The City and the Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 WORK

1.1 Contractor shall perform the Work as specified or indicated in the Contract Documents. The Work is as summarized in Section 1014, SCOPE AND SEQUENCE OF WORK.

ARTICLE 2 ENGINEER

2.1 The project design and construction documents have been prepared by the Weston & Sampson Engineers, Inc. Five Centennial Drive, Peabody, MA 01960.

2.2 Weston & Sampson Engineers, Inc. in conjunction with the City of Quincy Engineer Department, 55 Sea Street, Quincy, Massachusetts will act as the Engineer in connection with execution of the project work, in accordance with the Contract Documents.

ARTICLE 3 CONTRACT TIME

3.1 The total Contract Time to complete the work of the Base Bid portion of the project shall be 135 calendar days, commencing ten (10) calendar days following the effective date of this Agreement. If selected, the total Contract Time to complete the work of the Base Bid plus Alternate No. 1 shall be 160 calendar days, commencing ten (10) calendar days following the effective date of this Agreement. The bidder shall complete re-test inspection within 55 consecutive calendar days (Saturdays, Sundays and Holidays included) of commencement of re-test inspection. No site work shall be allowed between Thanksgiving and March 15, without permission, in writing, from the City.

3.2 The Contractor agrees that the Work shall be prosecuted regularly, diligently, and uninterrupted and at such rate of progress as will insure full completion thereof within the Contract Time stated above. It is expressly understood and agreed, by and between the contractor and the City, that the Contract Time is reasonable for the completion of the Work, taking into consideration the average climatic range and usual business/commercial and industrial activities prevailing in this locality.
ARTICLE 4 CONTRACT PRICE

4.1 The City will pay the contractor for performance of the Work in accordance with the Contract Documents, in current funds at the itemized unit or lump sum prices of work items, a total agreed sum of $____________________ (state the total amount in words):

as submitted in the Contractor’s Bid Form attached to the Agreement.

ARTICLE 5 APPLICATIONS FOR PAYMENT

5.1 Applications for payment shall be submitted by the Contractor and processed by the Engineer in accordance with the Conditions of the Contract included in the Contract Documents.

ARTICLE 6 PROGRESS AND FINAL PAYMENTS

6.1 The City will make progress payments on account of the Contract Price on the basis of the Contractor's Application for Payment, as recommended by the Engineer, monthly during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in the Conditions of the Contract.

6.2 The City will make progress and final payments as provided for in the Conditions of the Contract and in accordance with the applicable Massachusetts General Laws.

ARTICLE 7 LIQUIDATED DAMAGES

7.1 The City and the Contractor recognize that time is of the essence for this Agreement and that the City will suffer financial loss if the Work is not completed within the Contract Time specified in Article 3 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in providing, in a legal or arbitration proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and the Contractor agree that as liquidated damages or delay (but not as a penalty) the Contractor shall pay the City $1,300.00 per day for each calendar day of delay until the Work is complete.

7.2 Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is for reasons included in Article 12 of the General Conditions.
7.3 Provided further, that the Contractor shall furnish the City the required notification of such delays in accordance with the applicable Conditions of the Contract.

ARTICLE 8 ASSURANCE

8.1 The Contractor has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

8.2 The Contractor has studied carefully all reports of investigations and tests of sub-surface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by the Engineer in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

8.3 The Contractor has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in the above paragraph as he deems necessary for the performance of the work at the Contact Price within the Contact Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by him for such purposes.

8.4 The Contractor has correlated the results of all such observations, examinations, tests, reports and data with the terms and conditions of the Contract Documents.

8.5 The Contractor has given the Engineer written notice of any conflict, error or discrepancy that he has discovered in the Contract Documents and the written resolution thereof by the Engineer is acceptable to the Contractor.

8.6 The Contractor agrees that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

8.7 The fair share goals for disadvantaged business enterprise (DBE) participation for this contract are a minimum of 4.20 percent Disadvantaged Minority Business Enterprise (D/MBE) participation and 4.50 percent Disadvantaged Women Business Enterprise (D/WBE) participation, applicable to the total dollar amount paid for the construction contract. The Contractor shall take all affirmative steps necessary to achieve this goal, and shall provide reports documenting the portion of contract and subcontract dollars paid to DBEs, and its efforts to achieve the goals, with each invoice submitted or at such greater intervals as specified by the City of Quincy. The contractor shall require similar reports from its subcontractors.
8.8 The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

8.9 The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

8.10 The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

8.11 The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

8.12 The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders. Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230.

8.13 In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

8.14 The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that
such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.” [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970]

8.15 The contractor shall not participate in or cooperate with an international boycott, as defined in Section 999 (b)(3) and (4) of the Internal Revenue code 1986, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

8.16 As per DEP’s Policy Memorandum #10 – the agreed upon DIRECT LABOR MARKUP (percentage) for Change Orders on this project shall be ____________ percent.

8.17 The Contractor acknowledges to and for the benefit of the City of Quincy (“Purchaser”) and the Commonwealth of Massachusetts (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.
8.18 The Contractor agrees that it will fully comply with Subpart C of 2 CFR Part 180 and 2 CFR Part 1532, entitled Responsibilities of Participants Regarding Transactions (Doing Business with Other Persons). The Contractor shall not award any subcontracts or purchase any materials from suppliers that appear on the Excluded Parties List System. The Contractor shall include this requirement in each subcontract and require it to be included in all subcontracts regardless of tier. The Contractor shall maintain reasonable records to demonstrate compliance with these requirements.
IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed, by their duly authorized officials, this Agreement in seven (7) copies, each of which shall be deemed an original on the date first above written. The Party of the First Part agrees to pay to the Party of the Second Part, upon satisfactory completion and delivery of the aforementioned, the sum of:

Amount in Figures: $______________________________  
Amount in Words: ________________________________

WITNESS:  
BY:________________________  
Name:James Timmins  
Title: City Solicitor  
BY:________________________  
Name:Al Grazioso  
Title: Commissioner of Public Works

OWNER: The City of Quincy  
BY:________________________  
Name:Thomas P. Koch  
Title: Mayor

BY:________________________  
Name:Kathryn R. Logan  
Title: Purchasing Agent

Contract No.:__________________  
P.O. No.:_____________________

CONTRACTOR:  
BY:________________________  
Code:_______________________  
The undersigned in compliance with MGL, Chapter 44, Section 31C, certifies that an appropriation in the amount required for this contract is available.

BY:________________________  
Name:Mark Cavanagh  
Title: Director of Municipal Finance

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00500-7
INDEMNITY AGREEMENT

In consideration of the award of Contract No. ________________________________
by the City of Quincy, hereinafter referred to as INDEMNITEE, to the CONTRACTOR/BIDDER: ________________________________

hereinafter referred to as INDEMNITOR, and for other good and valuable consideration, said INDEMNITOR agrees to hold INDEMNITEE, City of Quincy, and its various department and employees harmless from any and all liability, loss or damage that INDEMNITEE may suffer as the result of claims, demands, costs, including attorneys fees, or judgement or other actions against it by reason of any and all work done by or on behalf of the INDEMNITOR in connection with the above-referenced contract.

INDEMNITOR,

_________________________________
By Duly Authorized Agent  
Date: ____________________________
A. **CONTRACTOR'S CERTIFICATION**

A Contractor will not be eligible for award of a contract unless he has submitted the following certification, which is deemed a part of the resulting contract.

________________________________________
certifies that:

1. it tends to use the following listed construction trades in the work under the contract:

______________________________________________________________________________

2. will comply with the minority manpower ratio and specific affirmative action steps contained herein; and

3. will obtain from each of its subcontractors and submit to the contracting administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions.

________________________________________
Contractor's Signature/Authorized Representative

B. **SUBCONTRACTOR'S CERTIFICATION**

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontract.

________________________________________
certifies that:

1. it tends to use the following listed construction trades in work under the subcontract:

______________________________________________________________________________ ; and

2. will comply with the minority manpower ratio and specific affirmative action steps contained herein.

________________________________________
Subcontractor's Signature

In order to ensure that said subcontractor's certification becomes a part of all subcontracts under the general contract, no subcontract shall be executed until an authorized representative of the state/municipal agency (or agencies) administering this project has determined, in writing, that said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval may be deemed invalid.
Dear Mr. Timmins:

Please be advised that I have reviewed the statement on internal accounting controls prepared by/or __________________________ (name of company), in connection with the above captioned project. This statement is required under Massachusetts General Laws, Chapter 30, Section 39R. In our opinion, representations of management are consistent with our evaluation of the system of internal accounting controls. In addition, we believe that they are reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the firm's financial statements.

Yours sincerely,

[Signature]

Certified Public Accountant

Note: This form is to be completed only when the contract exceeds $100,000, and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.
CERTIFICATION

Internal Accounting

The Contractor certifies that it has internal accounting controls, as required by Chapter 30, Section 39R and that the Contractor will:

1. maintain accurate and detailed accounts for a six (6) year period after the final payment;
2. file regular statements of management concerning internal auditing controls;
3. file an annual audited financial statement; and
4. submit a statement from an independent certified public accountant that such CPA has examined management's internal auditing controls and expresses an opinion as to their consistency with management's statements in (2) above, and whether such statements are reasonable with respect to transactions and assets that are substantial in relation to designer's financial statements. General Laws, Chapter 7, Section 301 (e).

Signed under the pains and penalties of perjury:

____________________________________________________________________
Name of Company

____________________________________________________________________
Authorized Signature

Note: This form is to be completed only when the contract exceeds $100,000 and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.
CERTIFICATE OF ACKNOWLEDGMENT OF CONTRACTOR
FOR AGREEMENT AND CONTRACT BONDS

State of ____________________________  } Fed. Tax ID # ________________
County of ____________________________

On this _______ day of ______________________, 20___, before me personally
appeared ____________________________________________, who
being by me duly sworn, did depose and say as follows:

That he is __________________________________________ in the firm of
(position in the firm)

__________________________________________, that said firm consists
(name of firm)

of ____________________________________________
(name of principals in firm and positions)

__________________________________________
__________________________________________

that he executed the foregoing instruments on behalf of said firm for the uses and purposes stated
herein. If a corporation, that the seal affixed to the foregoing instrument is such corporate seal and it
was so affixed by order of the Board of Directors of said corporation, and that by like order, he
signed thereto his name and official designation.

__________________________________________
Notary Public Seal

My commission expires: _______________________

\wse03.local\WSE\Projects\MA\Quincy MA\2160808 Wollaston Beach and NW Quincy Rehab Design\Design\SPECS\PHASE II\00525 - Contractor Certs.doc

00525-4
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENT: that

________________________________________
(Name of Contractor)

________________________________________
(Address of Contractor)

a ____________________________, hereinafter called Principal, and
(corporation, partnership, individual)

________________________________________
(Name of Surety)

________________________________________
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

________________________________________
(Name of Owner)

________________________________________
(Address of Owner)

hereinafter called OWNER, in the penal sum of: $ ____________________________

Dollars

in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the ____ day of ________ 20____, a copy of which is hereto attached and made a part hereof for the construction of:

Wollaston Beach Area SSES Rehabilitation Project Phase II

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the City, with or without notice to the Surety and during the one year guarantee period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the City from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that said surety for value received hereby stipulates and agrees that no change, extension of
time, alteration or addition to the terms of the Contract or to the WORK to be performed thereunder or the
SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby
waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the
WORK or to the SPECIFICATIONS.

PROVIDED FURTHER that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of
any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in seven (7) counterparts, one of which shall be deemed an
original, this the ___ day of ______ 20__.

ATTEST

__________________________________________________________  ________________________________
Principal’s Secretary                                Principal

[SEAL]                                                                                      

BY______________________________

(Address)

__________________________________________________________
(Witness as to Principal)

(Address)

__________________________________________________________
(Surety)

ATTEST:

(Surety Secretary)

[SEAL]

__________________________________________________________ BY:                             

(Witness to Surety) (Attorney-In-Fact)

__________________________________________________________

(Address) (Address)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should
execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department’s most current list
(Circular 570 as amended) and be authorized to transact business in the State of projects’ location.
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT:  that

________________________________________
(Name of Contractor)

________________________________________
(Address of Contractor)

a ____________________________ , hereinafter called Principal, and
(corporation, partnership, individual)

________________________________________
(Name of Surety)

________________________________________
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto __________________________________________

________________________________________
(Name of Owner)

________________________________________
(Address of Owner)

hereinafter called OWNER, in the penal sum of: $ __________________________________________

________________________________________
(Dollars)

in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the __ day of ____________ 20____, a copy of which is hereto attached and made a part hereof for the construction of:

Wollaston Beach Area SSES Rehabilitation Project Phase II

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void, otherwise to remain in full force and effect.
PROVIDED FURTHER, that said surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the WORK or to the SPECIFICATIONS.

PROVIDED FURTHER that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in seven (7) counterparts, one of which shall be deemed an original, this the ______ day of __________________ 20____.

ATTEST

__________________________________________________________  ____________________________
Principal's Secretary                                               Principal

[SEAL]                                                            BY__________________________________

(Address)                                                         (Address)

(Witness as to Principal)

__________________________
(Address)

ATTEST:

__________________________
(Surety Secretary)

[SEAL]

__________________________
(Witness to Surety)                                  (Attorney-In-Fact)

(Address)                                                        (Address)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of projects' location.
Note: This form may be substituted with Standard Forms issued by Insurance Agent.

**SAMPLE CERTIFICATE OF INSURANCE**

This is to certify that the ____________________________ (Company) has issued the policies listed below, that these policies are written in accordance with the Company’s standard policies and endorsements, except as indicated below or as noted in the attachments herewith, which policies and endorsements will be made available to ENGINEER and OWNER UPON request, that they provide coverage and limits of liability shown with respect to the insurance indicated that they are in force on this date, that all deductible amounts are indicated below, and that this Certificate is furnish in accordance with and for the purpose of satisfying the requirements of OWNER and ENGINEER in connection with the award and performance of a contract or agreement between (OWNER), and

1. Name of Insured
2. Address of Insured
3. Location and Description of Work

<table>
<thead>
<tr>
<th>Coverage and Limits of Liability</th>
<th>Bodily Injury</th>
<th>Property Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies</td>
<td>Each</td>
<td>Each</td>
</tr>
<tr>
<td>A. Owner’s Protective Liability</td>
<td>$1,000,000.</td>
<td>$1,000,000.</td>
</tr>
<tr>
<td>B. Comprehensive General Liability</td>
<td>$1,000,000.</td>
<td>$1,000,000.</td>
</tr>
<tr>
<td>Coverage B Limits $1,000,000. if applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONTRACTUAL LIABILITY**

CONTRACTOR shall at all times indemnify and save harmless OWNER, ENGINEER and their respective officers, agents and employees on account of any and all claims, damages, losses, litigation, expenses, counsel fees and compensation arising out of injuries (including death) sustained by or alleged to have been sustained by the officers, agents and employees of said OWNER or ENGINEER or of CONTRACTOR, his subcontractors, or material men, and from injuries (including death sustained by or alleged to have been sustained by the public, any or all persons on or near the Work, or by any other person or property, real or personal (including property of said OWNER or ENGINEER caused in whole or in part by the acts, omissions, or neglect of CONTRACTOR including but not limited to any neglect in safeguarding the work or through the use of unacceptable materials in contracting the Work by CONTRACTOR, any subcontractor, material man, or anyone directly or indirectly employed by them or any of them while engaged in the performance of the contract, including the entire elapsed time from the date ordered to start work or the actual start, whichever occurs first, until completion of the one year correction period, as certified by OWNER or ENGINEER.

Policies A, B, C & D shall remain in effect during the one year correction period.

Such insurer as is herein certified applies to all operations of the insured in connection with, and necessary and incidental to, the work herein described at the locations stated.

It is hereby understood and agreed that the above policies will not be restricted, suspended, materially changed, nor canceled without 15 days advance notice by registered mail to OWNER and ENGINEER.

Authorised Representative Signature

Address
CERTIFICATE OF WORK START-UP  
BY MINORITY/WOMEN BUSINESS ENTERPRISE

This form is to be submitted to the Project Administrator and the MBE Compliance Coordinator within ten (10) days after commencing work by the MBE or WBE. A separate form must be filed for each MBE/WBE involved in the project. Be sure to indicate whether this form is being filed in accordance with the original or a revised schedule of participation.

Contract # ______________________________ Date: ____________________________, 20____

Contract Title: ______________________________ Project Location: ______________________

General Contractor: ________________________________________________________________

Subcontractor: _____________________________________________________________________

(Please indicate [ ] MBE or [ ] WBE)

DESCRIPTION OF MBE/WBE WORK (LETTER OF INTENT)

Description of Activity and Total Participation*

MBE/WBE Work to Commence on _____________________ MBE/WBE Amount: $____________________

[ ] Original Schedule OR [ ] Revised Schedule, dated _________________________________

If the work start up date or description of activity are different from that listed on the Letter of Intent or Contract, please explain: (if more space is needed continue on back of sheet).

I hereby certify that all work listed in the Contract/Letter of Intent (or approved changes thereto as explained above) will/have commence(d) on _____________________, 20____ and that the above amount of these services is the true amount.

General Contractor

Sub-Contractor

<table>
<thead>
<tr>
<th>(Authorized Original Signature)</th>
<th>Date</th>
<th>(Authorized Original Signature)</th>
<th>Date</th>
</tr>
</thead>
</table>

Title: ______________________________________________________________________________

Address: _____________________________________________________________________________

Tel.:(_____) __________________________________________________________________________

INDICATE STATUS [ ] MBE OR [ ] WBE

*Attach a copy of the Letter of Intent.

00550-1
QUARTERLY MBE/WBE ACTIVITY REPORT

REPORTING PERIOD: _________________________________

Contract Title: ___________________________________________ Project Location: ____________________________

General Contractor: __________________________________________________________

Contact Person: __________________________________ Tel.#: (____) _______________________

Subcontractor: ____________________________________ 
(Please indicated [ ] MBE or [ ] WBE)

Contact Person: __________________________________ Tel.#: (____) _______________________

Compliance Manager (City/Town project location): ____________________________________________

Address: __________________________________ Tel.#: (____) _______________________

CONTRACT BILLING THIS QUARTER

Amount Billed by General Contractor during Quarter: $ ___________________________

Amount Billed by [ ] MBE or [ ] WBE during Quarter: $ ___________________________

CONTRACT BILLING TO DATE

Total Amount Billed by General Contractor to Date: $ ___________________________

Total Amount Billed by the [ ] MBE or [ ] WBE to Date $ ___________________________

PAYMENT INFORMATION

Total payments made to [ ] MBE or [ ] WBE during Quarter $ ___________________________

Total payments made to [ ] MBE or [ ] WBE to Date: $ ___________________________

Discuss any problems, adjustments or major milestones encountered during the reporting period (if more space is needed, use the back of the sheet):

CITY/TOWN COMPLIANCE MANAGER GENERAL CONTRACTOR

(Authorized Original Signature) Date (Authorized Original Signature) Date

Tel. #(____) ________________________ Tel. #(____) ________________________

Separate form must be filed for each MBE and WBE involved in the project. Submit copies of canceled checks to the MBE/WBE with this report.
Within thirty (30) days of submission by the General Contractor of the Final Pay Estimate, verification of all MBE/WBE participation in the Contract must be submitted to the City.

This form must be completed (Original Signatures only) and forwarded to the City's Contract Compliance Officer (DPW Administrative Assistant), 55 Sea Street, Quincy, MA 02169.

********************************************************************************************

OWNER

_______________________________________________
Name of Owner

________________________    ________________________
(Authorized Representative Name) (Title)

********************************************************************************************

GENERAL CONTRACTOR

___________________________
Company Name

( ) Telephone Number

___________________________
Contract Name/Number

Street Address

Contract Acceptance Date

_________________________
City/Town Zip Code

$ __________________________
Contract Bid Amount

********************************************************************************************

(Circle One)  MBE  WBE  SUBCONTRACTOR

_________________________
Company Name

Subcontract Amount  1st Payment Date

_________________________
City/Town Zip Code

$ __________________________
Total Received  Last Payment Date

Signature - Title

********************************************************************************************

Use separate copies of this form for each MBE/WBE contractor.
TAX COMPLIANCE CERTIFICATE

MASS. GENERAL LAWS, CH. 62C, S: 49A(b)

I hereby certify that I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding of child support.

Signed under the pains and penalties of perjury.

(1) Individual Contractor

______________________________

(Contractor’s Name and Signature)

Social Security Number

____________________________________

(2) Corporation, Association or Partnership

____________________________________

(Contractor’s Name)

Federal Tax ID Number, or Social Security Number

____________________________________

By: __________________________________

(Authorized Signature)

Note to Contractor: Please sign at (1) or (2), whichever applies.
CHAPTER 62C. ADMINISTRATIVE PROVISIONS RELATIVE TO STATE TAXATION

Chapter 62C: Section 49A Certification of compliance with tax laws as prerequisite to obtaining license or governmental contract

Section 49A. (a) Any person applying to any department, board, commission, division, authority, district or other agency of the commonwealth or any subdivision of the commonwealth, including a city, town or district, for a right or license to conduct a profession, trade or business, or for the renewal of such right or license, shall certify upon such application, under penalties of perjury, that he has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support. Such right or license shall not be issued or renewed unless such certification is made.

(b) No contract or other agreement for the purposes of providing goods, services or real estate space to any of the foregoing agencies shall be entered into, renewed or extended with any person unless such person certifies in writing, under penalties of perjury, that he had complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

(c) Any such agency, which has been notified by the commissioner pursuant to section forty-seven A that a person who holds a license or certificate of authority issued by such agency or who has agreed to furnish goods, services or real estate space to such agency has neglected or refused to file any returns or to pay any tax required under this chapter and that such person has not filed in good faith a pending application for abatement of such tax or a pending petition before the appellate tax board contesting such tax or has been penalized pursuant to section 9 of chapter 62E for failure to comply with the provisions under said chapter 62E relating to reporting of employees and contractors, or has been penalized pursuant to paragraph (3) of subsection (f) of section 12 of chapter 119A for failure to comply with the provisions under said chapter 119A relating to withholding and remitting child support, shall refuse to reissue, renew or extend such license, certificate of authority, contract or agreement until the agency receives a certificate issued by the commissioner that the person is in good standing with respect to any and all returns due and taxes payable to the commissioner as of the date of issuance of said certificate, including all returns and taxes referenced in the initial notification or, if the licensee has been penalized for failure to comply with the provisions relating to reporting of employees and contractors under chapter 62E or withholding and remitting child support under chapter 119A, a certificate issued by the commissioner that the licensee is in compliance with said provisions.

(d) Any person who owns or leases a motor vehicle or trailer that is required to be registered in the commonwealth under chapter 90 and improperly registers the motor vehicle or trailer in another state or misrepresents the place of garaging of the motor vehicle or trailer in another city or town, shall be considered in violation of laws of the commonwealth relating to taxes under chapter 60A, chapter 64H or chapter 64I. The right, license or contract provided for in subsections (a) and (b) shall not be issued or renewed until the person or business entity has paid all taxes due at the time of application for such right, license or contract.

(e) Any person who, for the purpose of evading payment of a tax pursuant to chapters 59 to 64J, inclusive, willfully makes and subscribes any return, form, statement or other document pursuant to subsection (a), (b) or (d) that contains or is verified by a written declaration that is made under the penalties of perjury, and that contains information that he does not believe to be true and correct as to every matter material to his compliance with all laws of the commonwealth relating to taxes, shall be subject to section 73.
NOTICE TO PROCEED

TO: ___________________________ DATE: ___________________________

________________________________ Project: ___________________________

You are hereby notified to commence WORK on or before ___________________________

In accordance with contract documents the contract time for the base bid portion of the work is 135 calendar days. If the Base Bid plus Alternate No. 1 is selected, the contract time shall be 160 calendar days. The date for completion of all work, excluding re-test inspection, is therefore __________________________.

BY: ___________________________

Name: _____Al Grazioso_________

Title: Commissioner of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

________________________________

(Company Name)

Signature: ___________________________ Date: ___________________________

Print Name: ___________________________ Title: ___________________________
CERTIFICATION OF GENERAL BIDDERS ON PUBLIC CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations application to awards made subject to section 44A.

II. CERTIFICATION REGARDING NON-COLLABORATION AND DEBARMENT

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: __________________

__________________________________________
Name of General Bidder

By _______________________________________
Signature

__________________________________________
Print name and title

__________________________________________
Business Address

__________________________________________
Street Address City and State
CERTIFICATION OF SUB- BIDDERS (IF ANY) ON PUBLIC CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupation Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under penalties of perjury that this subbid is in all responses bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date ____________________

_________________________________________
Name of Sub-bidder

By _______________________________________
Signature

_________________________________________
Print Name and Title

___________________________________________
Business Name

_________________________________________
Street Address, City and State
This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

__________________________________________

AMERICAN CONSULTING ENGINEERS COUNCIL

__________________________________________

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

Construction Specifications Institute

These General Conditions have been prepared for use with the Owner-Contractor Agreements (No. 1910-8-A-1 or 1910-8-A-2) (1996 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC User’s Guide (No. 1910-50). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. 1910-17) (1996 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. **Addenda**--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. **Agreement**--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. **Application for Payment**--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. **Asbestos**--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. **Bid**--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. **Bidding Documents**--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. **Bidding Requirements**--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. **Bonds**--Performance and payment bonds and other instruments of security.

9. **Change Order**--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. **Claim**--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. **Contract**--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

* 12. **Contract Documents**--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR’s Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER’s written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. **Contract Price**--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. **Contract Times**--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER’s written recommendation of final payment.

15. **CONTRACTOR**--The individual or entity with whom OWNER has entered into the Agreement.

16. **Cost of the Work**--See paragraph 11.01.A for definition.

17. **Drawings**--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

* See Supplementary Conditions
18. Effective Date of the Agreement--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

* 19. ENGINEER--The individual or entity named as such in the Agreement.

* 20. ENGINEER's Consultant--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. Field Order--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. General Requirements--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. Hazardous Environmental Condition--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. Hazardous Waste--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. Laws and Regulations; Laws or Regulations--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. Liens--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. Milestone--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. Notice of Award--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. Notice to Proceed--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

22. General Requirements--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

25. Laws and Regulations; Laws or Regulations--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

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29. Notice to Proceed--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

** 30. OWNER--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. Partial Utilization--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. PCBs--Polychlorinated biphenyls.

33. Petroleum--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. Project--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. Project Manual--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. Radioactive Material--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. Resident Project Representative--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. Samples--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. Shop Drawings--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. Site--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

* 41. Specifications--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship...
as applied to the Work and certain administrative details applicable thereto.

42. Subcontractor--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

** 43. Substantial Completion--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

44. Supplementary Conditions--That part of the Contract Documents which amends or supplements these General Conditions.

45. Supplier--A manufacturer, fabricator, supplier, distributor, materialman, vendor or having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. Underground Facilities--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. Unit Price Work--Work to be paid for on the basis of unit prices.

48. Work--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. Work Change Directive--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. Written Amendment--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms “as allowed,” “as approved,” or terms of like effect or import are used, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word “day” shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified
location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, “provide” is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed *

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. CONTRACTOR’s Review of Contract Documents:
Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules:
Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including Milestones specified in the Contract Documents;

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

* C. Evidence of Insurance:
Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 Preconstruction Conference

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, proce-
dures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR’s full responsibility therefor.

2. CONTRACTOR’s schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR’s schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

* A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER’s Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in
resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER’s approval of a Shop Drawing or Sample; or (iii) ENGINEER’s written interpretation or clarification.

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER’s Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER’s furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Subsurface and Physical Conditions

* A. Reports and Drawings: The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER’s Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
4.03 Differing Subsurface or Physical Conditions

A. Notice: If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

**

B. ENGINEER’s Review: After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER’s findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and
   b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or
   c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and
2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:
a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 Reference Points

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER’s judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.*

4.06 Hazardous Environmental Condition at Site

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those* reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.*

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CONTRACTOR may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER’s Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone...
for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER’s own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR’s obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents. *

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as
Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 CONTRACTOR’s Liability Insurance

* A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR’s performance of the Work and CONTRACTOR’s other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers’ compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR’s employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR’s employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

* 1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR’s indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional
insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).*

5.05 OWNER’s Liability Insurance

* A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER’s option, may purchase and maintain at OWNER’s expense OWNER’s own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 Property Insurance

* A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;

2. be written on a Builder’s Risk “all-risk” or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;

5. allow for partial utilization of the Work by OWNER;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

* B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

* C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

* D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any

* See Supplementary Conditions 00700 - 16

** See Supplementary Conditions 17.08
**Waiver of Rights**

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance otherwise payable under any policy so issued.

B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER’s property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.

C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER’s Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

**Receipt and Application of Insurance Proceeds**

A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurer; unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER’s exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurer in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

**Acceptance of Bonds and Insurance; Option to Replace**

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other
ARTICLE 6 - CONTRACTOR’S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

* B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR’s representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER’s written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.
2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

* See Supplementary Conditions 00700 - 19 ** See Supplementary Conditions 17.08

6.05 Substitutes and “Or-Equals”

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or-equal” item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. “Or-Equal” Items: If in ENGINEER’s sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an “or-equal” item, in which case review and approval of the proposed item may, in ENGINEER’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

   a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

   b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

   a. If in ENGINEER’s sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an “or-equal” item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

   b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

   c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

   d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR’s achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. Substitute Construction Methods or Procedures:

   If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER’s sole discretion, to determine that the substitute proposed is equivalent to that expressly called for.
by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. Engineer’s Evaluation: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No “or-equal” or substitute will be ordered, installed or utilized until ENGINEER’s review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an “or equal.” ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. Special Guarantee: OWNER may require CONTRACTOR to furnish at CONTRACTOR’s expense a special performance guarantee or other surety with respect to any substitute.

E. ENGINEER’s Cost Reimbursement: ENGINEER will record time required by ENGINEER and ENGINEER’s Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER’s Consultants in evaluating each such proposed substitute.

F. CONTRACTOR’s Expense: CONTRACTOR shall provide all data in support of any proposed substitute or “or-equal” at CONTRACTOR’s expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR’s own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

** F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER’s Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners,
employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

** A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR’s compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR’s primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR’s obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

** 6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

** 6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s
A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work; and

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER’s Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR’s duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

C. Cleaning: Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER’s review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

   a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

   c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

   d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s obligations under the Contract Documents with respect to CONTRACTOR’s review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER’s Review

* 1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. ENGINEER’s review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER’s attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR’s General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER’s Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR’s warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. normal wear and tear under normal usage.

B. CONTRACTOR’s obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR’s obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;

2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;

4. use or occupancy of the Work or any part thereof by OWNER;

5. any acceptance by OWNER or any failure to do so;

6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. any inspection, test, or approval by others;

8. any correction of defective Work by OWNER.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER’s Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and

2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee)
of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers’ compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER’s Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site

A. OWNER may perform other work related to the Project at the Site by OWNER’s employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER’s employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR’s Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR’s Work. CONTRACTOR’s failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR’s Work except for latent defects and deficiencies in such other work.

7.02 Coordination

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER’S RESPONSIBILITIES

8.01 Communications to Contractor

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 Replacement of ENGINEER

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.
8.03 Furnish Data

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 Pay Promptly When Due

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests

A. OWNER’s duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER’s identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 Insurance

* A. OWNER’s responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 Change Orders

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 Inspections, Tests, and Approvals

A. OWNER’s responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 Limitations on OWNER’s Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR’s failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER’s responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER’s obligations under the Contract Documents, OWNER’s responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER’S STATUS DURING CONSTRUCTION

9.01 OWNER’S Representative

A. ENGINEER will be OWNER’s representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER’s representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR’s executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER’s efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER’s visits and observations are subject to all the limitations on ENGINEER’s authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER’s visits or observations of CONTRACTOR’s Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the
Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER’s Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER’s authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER’s authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER’s authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER’s preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER’s written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER’s Authority and Responsibilities

A. Neither ENGINEER’s authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other

* See Supplementary Conditions 00700 - 27 ** See Supplementary Conditions 17.08
individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR’s failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER’s review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER’s Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER’s correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR’s responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Claims and Disputes

A. Notice: Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with
supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. ENGINEER’s Decision: ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER’s written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER’s decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER’s written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

**

11.01 Cost of the Work

A—Costs Included: The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers’ compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers’ field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CON-
TRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor’s Cost of the Work and fee shall be determined in the same manner as CONTRACTOR’s Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR’s employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR’s fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR’s officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR’s principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR’s fee.

2. Expenses of CONTRACTOR’s principal and branch offices other than CONTRACTOR’s office at the Site.

3. Any part of CONTRACTOR’s capital expenses, including interest on CONTRACTOR’s capital employed for the Work and charges against CONTRACTOR for delinquent payments.

* See Supplementary Conditions 00700 - 30

** See Supplementary Conditions 17.08
4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR’s Fee: When all the Work is performed on the basis of cost plus, CONTRACTOR’s fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR’s fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR’s costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR’s overhead and profit for each separately identified item.

* C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR’s fee for overhead and profit (determined as provided in paragraph 12.01.C).

**C. CONTRACTOR’s Fee**

The CONTRACTOR’s fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR’s fee shall be 15 percent;

   b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR’s fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR’s fee by an amount equal to five percent of such net decrease; and

   f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR’s fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 Delays Beyond CONTRACTOR’s Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 Delays Within CONTRACTOR’s Control

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays Beyond OWNER’s and CONTRACTOR’s Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR’s sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER’s Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR’s Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of testing personnel to facilitate required inspections or tests, or approvals and shall cooperate with inspection and notice of readiness of the Work for all required inspections, tests, or approvals required by the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER’s and ENGINEER’s acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR’s purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR’s expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR’s intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER’s observation and replaced at CONTRACTOR’s expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing,
replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR’s use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER’s written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work repaired or replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR’s obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER’s recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER’s evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER’s recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to

* See Supplementary Conditions 00700 - 34
** See Supplementary Conditions 17.08
comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR’s services related thereto, take possession of CONTRACTOR’s tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER’s representatives, agents and employees, OWNER’s other contractors, and ENGINEER and ENGINEER’s Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR’s defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER’s rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER’s interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR’s legitimate obligations associated with prior Applications for Payment.

* 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications

** 1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER’s reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER’s recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER’s observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER’s review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER’s knowledge, information and belief:

* See Supplementary Conditions 00700 - 35 ** See Supplementary Conditions 17.08
a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to CONTRACTOR’s being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER’s responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER’s review of CONTRACTOR’s Work for the purposes of recommending payments nor ENGINEER’s recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR’s failure to comply with Laws and Regulations applicable to CONTRACTOR’s performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER’s opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER’s opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. Payment Becomes Due

* 1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER’s recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

**

D. Reduction in Payment

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR’s performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any
adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER’s satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER’s refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR’s Warranty of Title

* A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER’s objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER’s issuing the definitive certificate of Substantial Completion, ENGINEER’s aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER’s option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR’s performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.
14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. Review of Application and Acceptance

** If, on the basis of ENGINEER’s observation of the Work during construction and final inspection, and ENGINEER’s review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR’s other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER’s recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR’s final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein,
or from CONTRACTOR’s continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work

** A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.

15.02 OWNER May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR’s persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR’s disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR’s disregard of the authority of ENGINEER; or

4. CONTRACTOR’s violation in any substantial way of any provisions of the Contract Documents.

* B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR’s tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR’s services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 OWNER May Terminate For Convenience

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

* See Supplementary Conditions 00700 - 39

** See Supplementary Conditions 17.08
B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 CONTRACTOR May Stop Work or Terminate

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR’s stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This Contract is to be governed by the law of the state in which the Project is located.

* See Supplementary Conditions 00700 - 40

** See Supplementary Conditions 17.08
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SUPPLEMENTARY CONDITIONS

AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1. DEFINITIONS AND TERMINOLOGY

Add the following language at the beginning of definition 1.01 A.12 entitled "Contract Documents" in the General Conditions:

"The Advertisement for Bids, Instructions to Bidders, State Regulations, ..."

Delete the words "The individual or entity named as such in the Agreement" in 1.01.A.19, “Engineer”, and insert the following in their place:

"The individual or entity duly appointed by the Owner to undertake the duties and powers herein assigned to the Engineer, acting either directly or through duly appointed representatives."

Delete the words "and who is identified as such in the Supplementary Conditions" at the end of definition 1.01 A.20, entitled "ENGINEER'S Consultant."

Delete definition 1.01 A.41 entitled "Specifications" in the General Conditions in its entirety and insert the following in its place:

"Sections included under Division 1 through Division 16 of the Contract Documents."

ARTICLE 2. PRELIMINARY MATTERS

SC-2.03

Add paragraph 2.03B:

Notwithstanding the time limitations provided in paragraph 2.03A, the OWNER may desire to commence the Contract Times later than the sixtieth day after the bid opening. The OWNER and CONTRACTOR, upon mutual agreement, may extend the commencement of the Contract Times to any date that they elect. OWNER must obtain CONTRACTOR’s approval for extending the time beyond the dates/times stated in the Contract Documents.
Delete paragraph 2.05C of the General Conditions in its entirety and insert the following in its place:

“C. Evidence of Insurance: CONTRACTOR shall deliver to OWNER, with a copy to the ENGINEER, Certificates of Insurance within 10 days after receipt of the notice of the acceptance of bid (and other evidence requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 5.”

ARTICLE 3. CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Add the following sentence at the end of Paragraph 3.01A of the General Conditions:

"...by all. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion."

ARTICLE 4. AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

Delete the term “Supplementary Conditions” of paragraph 4.02 A of the General Conditions and replace it with “Contract Documents”.

Change “of” to “or” on line 6 of paragraph 4.04 B.2 of the General Conditions.

Delete the following words from lines 8 and 9 of paragraph 4.04 B.2 of the General Conditions:

“...or not shown or indicated with reasonable accuracy...”

Add a new paragraph immediately after paragraph 4.05A of the General Conditions which is to read as follows:

"B. ENGINEER may check the lines, elevations and reference marks set by CONTRACTOR, and CONTRACTOR shall correct any errors disclosed by such check. Such a check shall
not be considered as approval of CONTRACTOR's work and shall not relieve CONTRACTOR of the responsibility for construction of the entire Work in accordance with the Contract Documents. CONTRACTOR shall furnish personnel to assist ENGINEER in checking lines and grades."

ARTICLE 5. BONDS AND INSURANCE

NOTICE TO CONTRACTOR:

1. Proof of Insurance coverage shall be furnished to the OWNER in accordance with the schedule for submittal of Bonds and Agreements.

2. Additionally refer to Article 2. PRELIMINARY MATTERS, Paragraph SC-2.05.C

SC-5.01

Insert these sentences following SC-5.01.A: The Surety Company providing the bonds shall have a rating of A or better within the Best Key Rating Guide and be licensed by the Massachusetts Division of Insurance. The CONTRACTOR shall pay the premiums for such Bonds.

SC-5.03

Delete the second sentence in paragraph 5.03A of the General Conditions, which begins "OWNER shall deliver to...."

SC-5.04

The limits of liability for the insurance required by paragraph 5.04A of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

5.04 A.1 and 5.04 A.2 Workers' Compensation.

(1) Worker's Compensation per Statutory Requirements

(2) Coverage B - Employer's Liability $500,000/$500,000/$500,000

5.04 A.3, 5.04 A.4 and 5.04 A.5 Commercial General Liability Limits shall include coverage for Independent Contractors (also known as Owners and Contractors Protective Liability), explosion, collapse and underground hazard coverage (XCU), broad form property damage, blanket contractual liability and products/completed operations. The general aggregate limits shall be endorsed so that they respond on a per project and per location basis.
Limits:

$1,000,000 each occurrence
$2,000,000 general aggregate
$2,000,000 products/completed operations aggregate

5.04 A.6 Automobile Liability for owned, hired and non-owned vehicles:

(1) Bodily injury: $1,000,000 Combined single limit
(2) Property damage $1,000,000 Combined single limit

Revise the beginning of paragraph 5.04.B.1 to read as follows:

“with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.5 inclusive and paragraph 5.04.C, include as additional insureds…”

Delete paragraph 5.04.B.5 in its entirety and insert the following in its place:

“5. contains a provision that notice of cancellation of insurance be delivered in accordance with policy provisions. In addition, the CONTRACTOR and/or its insurance broker/agent shall immediately notify the OWNER and ENGINEER should any insurance coverage be cancelled. The CONTRACTOR shall immediately stop work on the Project and shall not resume work until the CONTRACTOR provides evidence, to the OWNER and ENGINEER, in the form of an acceptable insurance certificate, of new insurance coverage that replaces all cancelled coverage that is required for the Project.”

Add two new paragraphs immediately after paragraph 5.04B of the General Conditions which are to read as follows:

“C. The CONTRACTOR shall also provide:

1. CONTRACTOR shall, as a minimum, purchase and maintain excess liability insurance in the umbrella form with a combined single limit of not less than $5,000,000 per occurrence and in the aggregate. Evidence of such excess liability shall be delivered to OWNER in accordance with paragraph 2.05C in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance.”
A. General Liability, Workers' Compensation, Automobile Liability and Umbrella Liability Policies will contain waivers of subrogation in favor of the Engineer and Owner.

2. If the aggregate limits of liability indicated in CONTRACTOR' insurance provided in accordance with paragraphs 5.03 and 5.04 are not sufficient to cover all claims for damages arising from his operations under this Contract and from any other work performed by him or if the commercial general liability insurance policy of insurance does not provide that the general aggregate limits apply on a per project and per location basis, CONTRACTOR shall have the policy amended so that the aggregate limits of liability required by this Contract will be available to cover all claims for damages due to operations under this Contract."

SC-5.05
Delete paragraph 5.05 of the General Conditions in its entirety.

SC-5.06
Delete Paragraph 5.06 A of the General Conditions in its entirety.
Delete paragraph 5.06B of the General Conditions in its entirety.
Delete Paragraph 5.06C of the General Conditions in its entirety.
Delete paragraph 5.06D of the General Conditions in its entirety.
Delete paragraph 5.06E of the General Conditions in its entirety.

SC-5.07
Amend the last sentence of paragraph 5.07A of the General Conditions by striking out the words "held by OWNER as trustee or." As so amended, paragraph 5.07A remains in effect.

SC-5.08
Delete paragraph 5.08A of the General Conditions in its entirety.
Delete paragraph 5.08B of the General Conditions in its entirety.

SC-5.09
Delete paragraph 5.09A of the General Conditions in its entirety and insert the following in its place:
"A. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with this Article 5 on the basis of its not complying with the Contract Documents, OWNER will notify CONTRACTOR in writing thereof within thirty days of the date of delivery of such certificates to OWNER in accordance with paragraph 2.05C. CONTRACTOR will provide such additional information in respect of insurance provided by him as OWNER may reasonably request."

ARTICLE 6. CONTRACTOR'S RESPONSIBILITIES

SC-6.01

Delete paragraph 6.01B of the General Conditions in its entirety and replace with the following:

"B. At the site of the Work the CONTRACTOR shall employ a full-time construction superintendent or foreman who shall have full authority to act for the CONTRACTOR. It is understood that such representative shall be acceptable to the ENGINEER and shall be one who will be continued in the capacity for the particular job involved unless the representative ceases to be on the CONTRACTOR's payroll. If at any time during the Work the representative is deemed by the ENGINEER to be no longer acceptable, the representative shall be promptly replaced by the CONTRACTOR. All communications to the superintendent or foreman shall be as binding as if given to the CONTRACTOR."

SC-6.04

Add the following paragraph after paragraph 6.04A.2 of the General Conditions:

"B. The CONTRACTOR's resident superintendent shall attend monthly progress meetings at the site of the work with the ENGINEER and others as appropriate to review schedule status and such other pertinent subjects as may be listed on the agenda by the ENGINEER."

SC-6.05

Revise the second sentence of Paragraph A to read as follows:

“Unless the specification indicates that a proprietary item is called for, other items of material or equipment or material or equipment of other suppliers may be submitted to ENGINEER for review under the circumstances described below, and in accordance with MGL c.30, s.39M.”

SC-6.17

In paragraph 6.17 E.1 of the General Conditions, delete the word “timely” from the first line.
Delete paragraph 6.20A of the General Conditions in its entirety and replace with the following:

"A. To the fullest extent permitted by law, the CONTRACTOR shall indemnify and hold harmless the OWNER, the ENGINEER, ENGINEER's consultants, and any of their officers, directors, employees, agents, affiliates, subsidiaries and partners from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by acts or omissions of the CONTRACTOR, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall apply to any such claims, damages, losses and expenses which arise and/or are incurred by any person or entity either during the performance of the Work and/or after completion of construction. Nothing in this paragraph shall be construed to negate, abridge, or reduce other rights or obligations of indemnity or contribution which would otherwise exist as to a party or person indemnified hereunder. CONTRACTOR hereby assumes the responsibility and liability for injury to or death of any and all persons, including the CONTRACTOR's employees, and for any and all damage to property caused by, resulting from, or arising out of any act, omission or neglect on the part of the CONTRACTOR, or of any Subcontractor or of anyone directly or indirectly employed by any of them or of anyone for whose acts, any of them may be liable. The Contractor hereby acknowledges its obligation under the foregoing paragraph to indemnify the Engineer and Owner against judgments suffered because of the contractor's work and to assume the cost of defending the Engineer and Owner against claims as described in the foregoing paragraph."

Delete paragraph 6.20C of the General Conditions in its entirety.

ARTICLE 8. OWNER'S RESPONSIBILITIES

SC-8.02

Delete the phrase “to whom the CONTRACTOR makes no reasonable objection.”

SC-8.06

Delete paragraph 8.06A of the General Conditions in its entirety.
Insert the following after the first sentence:

“However, the OWNER shall have the right to direct the CONTRACTOR to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto.”

ARTICLE 9. ENGINEER’S STATUS DURING CONSTRUCTION

SC-9.01

Add a new paragraph 9.01B after paragraph 9.01A of the General Conditions, which is to read as follows:

"B. Nothing contained in the Contract Documents shall be construed to create a contractual relationship of any kind (1) between the ENGINEER and CONTRACTOR, (2) between the OWNER and a Subcontractor or Subcontractors, or (3) between any person or entities other than the OWNER and CONTRACTOR. The ENGINEER shall, however, be entitled to performance and enforcement of obligations under the CONTRACT DOCUMENTS intended to facilitate performance of the ENGINEER'S duties."

SC-9.10

Insert the following after the first sentence on paragraph 9.10B:

““However, the ENGINEER shall have the right to direct the CONTRACTOR to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto.”

ARTICLE 11. COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

Delete Article 11 of the General Conditions in its entirety and replace with the following:

"A. The unit price of an item of Unit Price work shall be subject to reevaluation and adjustment under the following conditions:

(1) If the total extended bid price [Estimated Quantity times the Bid Unit Price] of a particular item of Unit Price Work amounts to 5 percent or more of the Original Contract Price and the variation in the quantity of the particular item of Unit Price Work performed by CONTRACTOR differs by more than 15 percent from the estimated quantity of such item indicated in the Agreement; and

(2) If there is no corresponding adjustment with respect to any other item of work; and
(3) If CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed. If OWNER believes that the quantity variation entitles OWNER to an adjustment in the unit price, OWNER shall be entitled to an adjustment in the unit price in an amount determined by the ENGINEER. ENGINEER shall not be liable in connection with any determination relating to adjustments which is rendered in good faith."

ARTICLE 12. CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

SC-12.01
Delete paragraph 12.01 in its entirety.

SC-12.06
Add the following new paragraphs after paragraph 12.06 of the General Conditions:

“12.07 Liquidated Damages:

A. If the CONTRACTOR shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the OWNER, then the CONTRACTOR does hereby agree, as a part consideration for the awarding of this Contract, to pay to the OWNER the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contract shall be in default after the time stipulated in the Contract for completing the work. Such damages may be retained from time to time by the OWNER from progress payments or any amounts owing to the CONTRACTOR, or otherwise collected.

B. The said amount is fixed and agreed upon by and between the CONTRACTOR and the OWNER because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER would in such event sustain, and said amount is agreed to be the amount of damages which the OWNER would sustain and said amount shall be retained from time to time by the OWNER from current periodical estimates.

C. It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein as definite and certain length of times if fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided that the CONTRACTOR shall not be charged with liquidated damages of any excess cost when the OWNER determines that the CONTRACTOR is without fault and the CONTRACTOR's reasons for the time extension are acceptable to the OWNER; Provided, further, that the CONTRACTOR shall not be
charged with liquidated damages or any excess cost when the delay in completion of the work is due:

1) to any preference, priority or allocation order duly issued by the Government;

2) to unforeseeable cause beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and

3) to any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections C (1) and C (2) above;

D. Provided, further, that the CONTRACTOR shall, within thirty (30) days from the beginning of such delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter."

ARTICLE 13. TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.07

Delete paragraph 13.07A of the General Conditions and insert the following in its place:

“A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such defective work, or, if it has been rejected by OWNER, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other work or the work of others therefrom. If CONTRACTOR does not begin the repairs within ten (10) days of receipt of written notification and promptly comply with the terms of OWNER's written instructions, or in an emergency where delay would cause serious risk, loss or damage, OWNER may have the defective work corrected or the rejected work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.”
Revise paragraph 13.09A of the General Conditions

A. Delete the word “seven” and replace it with the word “ten” so that it reads “after ten days written notice to CONTRACTOR.”

ARTICLE 14. PAYMENTS TO CONTRACTOR AND COMPLETION

Delete paragraph 14.02A.3 and insert the following in its place:

"3. Retainage with respect to progress payments will be five percent or, if stipulated, the maximum allowed by law."

Add Paragraph 4. to read as follows:

“The CONTRACTOR shall submit Weekly Payroll Records Report and Statement of Compliance verifying compliance with the Minimum Prevailing Wage Law, MGL ch. 149, Sections 26-27H. These Statements of Compliance shall be submitted as a condition of payment for work performed during the period the reports apply.”

Delete paragraph 14.03A in its entirety and insert the following in its place:

"A. CONTRACTOR warrants and guarantees that title to all work, material and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than at the time of Application for Payment free and clear of all liens. CONTRACTOR shall provide written transfer of title and a certified paid invoice provided by the supplier."

ARTICLE 15. SUSPENSION OF WORK AND TERMINATION

Add a new paragraph immediately after paragraph 15.02 A.4 of the General Conditions which is to read as follows:

"5. If the Work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be sublet, without the previous written consent of OWNER, or if the contract or any claim thereunder shall be assigned by CONTRACTOR otherwise than as herein specified;"
ARTICLE 17. MISCELLANEOUS

SC-17.06, 17.07, 17.08, 17.09

Add the following new paragraphs after paragraph 17.05 of the General Conditions:

"17.06 Assignment:

A. The CONTRACTOR shall not assign the whole or any part of this Contract or any moneys due or to become due hereunder until thirty (30) days prior notice in writing has been given to the OWNER of the intention to assign, which notice shall state the identity and address of the prospective assignee. No assignment shall be made without the OWNER's prior written consent. Such consent shall not be unreasonably withheld. In case the CONTRACTOR assigns all or any part of the moneys due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the CONTRACTOR shall be subject to prior claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this Contract."

17.07 Liability

It is understood and agreed that members of the OWNER or the ENGINEER or any agent or employees of the OWNER signing this Agreement shall not be personally liable hereunder for any action incurred in connection with this Agreement.

17.08 State Statutes and Regulations

See Section 00830 for further modifications of the General Conditions due to state statutes and regulations.

17.09 Severability

If any provision of this Agreement shall be invalid or unenforceable to any extent or in any application, then the remainder of this Agreement and of such terms and conditions, except to such extent or in such application, shall not be affected thereby, and each and every term and condition of this Agreement shall be valid and enforced to the fullest extent and in the broadest application permitted by law."

END OF SECTION
### SECTION 00850

**SUPPLEMENTARY CONDITIONS - PART II**

**STATUTORY REQUIREMENTS**

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ARTICLE 1  STATUTORY REQUIREMENTS IN GENERAL

1.1 The Contractor shall keep himself fully informed of all existing and future State and Federal Laws and Municipal Ordinances and Regulations in any manner affecting those engaged or employed in the work or in any way affecting the conduct of the work, and of all such orders and decrees of bodies or tribunals having jurisdiction or authority over same and of all provisions required by law to be made a part of this contract, all of which provisions are hereby incorporated by reference and made a part thereof. If any discrepancy or inconsistency is discovered in the drawings or specifications or contract documents for this work in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same to the Engineer in writing. He shall at all times himself observe and comply with, and shall cause all his agents and employees to observe and comply with, all such existing and future laws, ordinances, regulations, orders and decrees; and he shall protect and indemnify the City and Engineer and all of its and their officers, agents and servants against any claim of liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees or sub-contractors.

1.2 All materials furnished and work done are to comply with all State, Federal and local laws and regulations.

1.3 All applicable laws, ordinances, and rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to the contract throughout.

ARTICLE 2  DELETED

ARTICLE 3  DELETED

ARTICLE 4  SAFETY AND HEALTH REGULATIONS

4.1 The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PS-91-569) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

4.2 This project is subject to the Safety and Health Regulations of the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (Chapter 454 CMR, 10.0 et. seq.").

4.3 This project is subject to all of the Safety and Health Regulations (CFR, Part 1926, and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.
4.4 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the site to inspect the work and to supervise the conformance of the work with the regulations of the Act.

4.5 All excavations within public or private ways are subject to the requirements of the Massachusetts General Law, Acts of 1983, Chapter 353, included in Part II of the Supplementary Conditions.

ARTICLE 5 PERMITS AND LICENSES

5.1 Deleted

5.2 The Contractor shall procure all permits and licenses required, pay all charges and fees therefore, and shall give all notices necessary and incidental to the due and lawful prosecution of the Project. The cost thereof shall be included in the prices bid for the various items listed in the proposal.

The permits shall also include all building and other permits required for his equipment, work force or particular operations (such as blasting or local street opening permits), in the performance of the work.

ARTICLE 6 CHANGE ORDERS

6.1 Change Orders will be completed by the Contractor using the form enclosed on the following page. The City will not accept any other form as a substitute.

(continued on next page)
City of Quincy, Massachusetts
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

CHANGE ORDER/AMENDMENT # __________

Made in Quintuplicate this day (DATE) _________________ between the City of Quincy, Massachusetts, a Municipal Corporation, within the County of Norfolk, Party of the first part and (name & address of Company below) party of the second part.

WITNESSETH: That for and in consideration of the following mutual covenants contained herein the parties agree to amend Contract # _________________ Of the City of Quincy, dated _________________ between the same parties as follows:

ARTICLE I: In Article I, we are INCREASING/DECREASING the Contract by $______________
Because: (list below reason)
Justification: (Attached - Refer to Page 2)

ARTICLE II: In Article II of the Contract, for (SPECIFY COMMODITY) _________________
between the same parties, strike out the words and figures: $______________

__________________________________________________________
AMOUNT IN WORDS and substitute the words and figures: $____________________

__________________________________________________________
AMOUNT IN WORDS

WITNESS: ________________________________

CITY OF QUINCY ________________________________

MAYOR ________________________________

CITY SOLICITOR ________________________________

PURCHASING AGENT ________________________________

CITY AUDITOR ________________________________

DEPT.: ________________________________

P.O. #: ________________________________

CODE: ________________________________

SUFFICIENT FUNDS ARE AVAILABLE TO COVER THIS CHANGE ORDER IN THE CONTRACT ACCOUNT TO BE CHARGED.

VENDOR SIGNATURE ________________________________

COMMISSIONER OF PUBLIC WORKS ________________________________
PROJECT NAME: _______________________________________

PROJECT NUMBER: ___________________________________

CONTRACT #: _______________________________________

CHANGE ORDER #: ___________________________________

CONTRACT AMOUNT: (As bid): _____________________________

CHANGE IN CONTRACT PRICE (this change order): ____________

TOTAL ADJUSTED CONTRACT PRICE (including all COs): ______

Reason for Change Order:

(1) Additional Work ________ (2) Field Change ________

(3) Change in Bid Quantities ________ (4) Change in Schedule ________

a. Time to complete the work is extended by _______ calendar days.

b. Extended completion date is ____________________________

Reason & Description of Change:

Supporting Documents (List or attach, as necessary):

This Change Order Has Been Requested By: CONTRACTOR ________ CITY ____________

This Change Order Has Been Reviewed by: (Resident Engineer/Clerk of Works) (Date)

and ____________________________________________ (Stamp) (Date)
(City/Consultant Engineer/Architect)
ARTICLE 7
SUPPLEMENTARY CONDITIONS - COMMONWEALTH OF MASSACHUSETTS

INDEX

All Mass. General Laws listed below are deemed inserted by reference in this contract. It is understood that the latest amendments to these laws shall also be inserted by reference.

1. PAYMENTS TO SUBCONTRACTOR. MGL C. 30; s. 39F
2. METHOD OF PAYING GENERAL CONTRACTORS - COMPLETION OF PUBLIC WORKS: SEMI-FINAL AND FINAL ESTIMATES: PAYMENTS: EXTRA WORK: DISPUTED ITEMS, MGL C. 30, s. 39G
3. DEVIATION FROM PLANS AND SPECIFICATIONS, MGL C. 30, s. 39I
4. NO ARBITRARY DECISIONS ARE FINAL, MGL C. 30, s. 39J
5. CONSTRUCTION WORK BY FOREIGN CORPORATIONS, MGL C. 30, s. 39L
6. SUBSTITUTION OF EQUAL PRODUCTS, MGL C. 30, s. 39M(b)
7. DIFFERING SITE CONDITIONS, MGL C.30, s. 39N
8. EQUITABLE ADJUSTMENTS FOR DELAYS, MGL C.30, s. 39O
9. DECISIONS ON INTERPRETATION OF SPECIFICATIONS, MGL C 30, s. 39P
10. CONTRACTOR’S RECORDS, MGL C. 30, s. 39R
11. PREFERENCE IN EMPLOYMENT, WAGES, MGL C.149, s.26
12. MINIMUM WAGE RATES, MGL C. 149, s. 26-27D
13. LIMITATIONS ON HOURS OF WORK, MGL C.149, s.34
14. ADVERTISING INVITATIONS TO BID, MGL C.149, s.44J
15. EXCAVATIONS; NOTICE; PENALTIES, MGL C.82, s.40
ARTICLE 8

THE COMMONWEALTH OF MASSACHUSETTS
&
CITY OF QUINCY

SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY
ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM

I. For purposes of this contract, "minority" refers to Asian-Americans, Blacks, Spanish Surnamed Americans, North American Indians, and Cape Verdeans. "Commission" refers to the Massachusetts Commission Against Discrimination.

II. During the performance of this contract, the contractor and all of his subcontractors (hereinafter collectively referred to as the Contractor), for himself, his assignees and successors in interest, agree as follows:

1. In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment advertising, recruitment layoff, termination, rates of pay or other forms of compensation, conditions or privileges of employment, and selection for apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (M.G.L. Chapter 151B).

2. In connection with the performance of work under this Contract, the Contractor shall undertake in good faith affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age 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 or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Commonwealth public construction projects.

00850-7
III.  1. As part of his obligation of remedial action under the foregoing section, the Contractor shall maintain on this project a not less than 10% ratio of minority employee man hours to total man 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 Section 44C of Chapter 149 of the Massachusetts General Laws.

2. In the hiring of minority journeymen, 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 Commission.

IV.  1. At the discretion of the Commission there may be established for the life of this contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, hereinafter called the administering agency, the Commission and such other representatives as may be designated by the Commission in conjunction with the administering agency.

2. 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.

3. The Contractor shall prepare projected manning tables on a quarterly basis. These shall be broken down into projections, by week, or workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also when updated to the Commission and Liaison Committee.

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

5. The Contractor shall prepare weekly reports in a form approved by the Commission 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 Commission and to the Liaison Committee.

V. If the Contractor shall use any subcontractor on any work performed under this contract, he shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include modification to the Office of Minority Business Assistance (within the Executive Office of Communities
and Development) or its designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.

VI. In the employment of journeymen, apprentices, trainees and advanced trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work to which the employment related, and, secondly, to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States.

VII. A designee of the commonwealth and a designee of the Liaison Committee shall each have right of access to the construction site.

VIII. Compliance with Requirements

The Contractor shall comply with the provision of Executive Order No. 74 as amended by Executive Order No.116 dated May 1, 1975, and of Chapter 151B, as amended, of the Massachusetts General Laws, both of which are herein incorporated by referenced and made a part of this contract.

IX. Non-Discrimination

The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on grounds of race, color, religious creed, national origin, age or sex in employment practices in the selection or retention of subcontractors, or in the procurement of materials and rentals of equipment.

X. Solicitations for Sub-Contracts, and for the Procurement of Materials and Equipment

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.

XI. Bidders Certification Requirement

1. The bidders certification form currently in use will be deleted from all future bid documents.

2. The following certification statement will be inserted in the bid document just above the bidder's signature, as a substitute for the present bidder certification form.
"The bidder hereby certifies he shall comply with the minority manpower ratio and specific action steps contained in the appendix EEO attached hereto, including compliance with the minority contractor compliance specified in Section V of said appendix. The contractor receiving the award of the contract shall be required to obtain from each of its subcontractors and submit to the contacting or administering agency prior to the performance of any work under said contract a certification by said subcontractor, regardless of tier that it will comply with the minority manpower ratio and specific affirmative action steps contained in the appendix EEO.

XII. Contractor's Certification

The Contractor's certification form must be signed by all successful low-bidder(s) prior to award by the contracting agency.

XIII. Compliance-Information, Reports and Sanctions

1. The Contractor will provide all information and reports required by the administering agency or the Commission on 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 Commission to affect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth'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 administering agency or the Commission as appropriate and shall set forth what efforts he has made to obtain the information.

2. Whenever the administering agency, the Commission, or the Liaison Committee believes the General Contractor or any Subcontractor may not be operating in compliance with the terms of this Section, the Commission directly, or through its designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the Commission or its agent finds the General Contractor or any subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify such Contractor in writing of such steps as will in the judgement of the Commission or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Commission or its agent shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If, however, the Commission believes the General 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 administering agency
shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:

a. The recovery by the administering agency from the General 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 administering agency from the General Contractor, to be assessed by the General Contractor as a back charge against the Subcontractor, of 1/10 of 1% of the subcontract price, or $400, whichever is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply;

b. The suspension of any payment or part thereof due under the contract until such time as the General Contractor or any Subcontractor is able to demonstrate his compliance with the terms of the contract;

c. The termination, or cancellation of the contract, in whole or in part, unless the General Contractor or any Subcontractor is able to demonstrate within a specified time his compliance with the terms of the contract;

d. The denial to the General Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.

3. If at any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate that he is in compliance with this Section, he may request the administering agency, in consultation with the Commission, to suspend the sanctions conditionally, pending a final determination by the Commission as to whether the Contractor is in compliance. Upon final determination of the Commission, the administering agency, based on the recommendation of the Commission, shall either lift the sanctions or reimpose them.

4. Sanctions enumerated under Sections XII-2 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used M.G.L. c.30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

XIV. Severability

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

50.01: Declaration of Policy
50.02: Purpose and Scope
50.03: Definitions
50.04: Employment Policies of Agencies Within EOEA
50.05: State Services and Facilities
50.06: Eligibility for Financial Assistance
(301 CMR 50.07 and 50.08: RESERVED)
50.09: Construction Projects Conducted by Agencies
50.10: Construction Projects Conducted by Grantees
(301 CMR 50.11 through 50.13: RESERVED)
50.14: Compliance and Sanctions
50.15: Severability
50.16: Appendix 1. Executive Order 74 (as amended and revised by Executive Order 116) the Governor's Code of Fair Practices.
50.19: Appendix 4. Fair Housing Guidelines
50.20: Appendix 5. Memorandum of Agreement
50.21: Appendix 6. Goals and Timetables Adopted Pursuant to the Department of Labor's Regulations 41 CFR 60-4.6

50.01: Declaration of Policy

(1) Non-discrimination and equal opportunity are the policy of the Executive Office of Environmental Affairs in all of its decisions, programs and activities. To that end, all agency employees shall rigorously take affirmative steps to ensure equality of opportunity in the internal affairs of all agencies as well as in their relations with the public, including those persons and organizations doing business with any agency of the Executive Office of Environmental Affairs. Each agency, in discharging its decisions, programs and activities shall have in meeting the goal of equality of opportunity.

(2) Affirmative action requires more than vigilance in the elimination of discriminatory barriers on the grounds of race, color, creed, national origin, age, and sex. It must also entail positive and aggressive measures to ensure equal opportunity in internal personnel practices and in those programs which can affect persons and political subdivisions outside of state government. This
affirmative action shall include efforts necessary to remedy the effects of present and past
discriminatory patterns and practices and any action necessary to guarantee equal opportunity for all
people.

(3) All agencies shall initiate affirmative action programs designed to conform to this policy. All such affirmative action programs shall be subject to review by the Executive Office of Administration and Finance, or such other Office or person as may be designated by the Governor, and the Massachusetts Commission Against Discrimination, as provided in 301 CMR 50.16 (Appendix 1, Executive Order 74, as amended by Executive Order No. 116, the Governor's Code of Fair Practice).

(4) All powers, functions and duties granted to the Secretary of Environmental Affairs under any provision of law shall be construed liberally for the accomplishment of these regulations.

These regulations establish the procedures by which the Executive Office of Environmental Affairs and all its agencies shall comply with the policy and requirements for equal employment opportunity and affirmative action.

50.10 Construction Projects Conducted by Grantees

(1) Before any applicant receives any financial assistance, including state assisted or federally assisted construction grants awarded under any program administered by an agency, the Secretary must have determined that such applicant is in compliance with the Equal Employment Opportunity Guidelines and Fair Housing Guidelines of the Commission, as they may be amended from time to time (301 CMR 50.18 Appendix 3 and 50.19 Appendix 4 of these regulations) according to the procedures set forth in 301 CMR 50.06 of these regulations.

(2) Every state or state-assisted or federal or federally-assisted contract for public buildings and public works or for goods or services that is let by a grantee shall contain an article prohibiting discriminatory employment practices by contractors, subcontractor, and suppliers of goods or services based on race, color, religion, national origin, ancestry, age or sex. The non-discrimination article shall include a provision requiring contractors and suppliers of goods or services to give written notice of their commitments under this section to any labor union, association or brotherhood with which they have a collective bargaining or other agreement. Such notice shall also be given to the Commission and to SOMBA.

(3) Grantees shall adopt for use in all contracts for construction projects with a dollar value in excess of ten thousand dollars ($10,000.) an adapted version of the Commonwealth of Massachusetts Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program (Supplemental Program) (301 CMR 50.17 Appendix 2 of these regulations). Such contract may include minority workforce percentages greater than those required for the geographical locations of the construction project as set forth in the Supplemental Program.
(4) Grantees shall take affirmative steps to increase participation of minority business enterprise (MBEs) in any construction grant.

(5) Prior to the publication of the availability of contracts for construction work to be performed under any construction grant with a total dollar value in excess of ten thousand dollars ($10,000.), the grantee shall notify SOMBA of its intent to solicit bids and shall make available to SOMBA, upon request, copies of the proposal to bid, specifications and plans, and bid invitations.

(6) At the discretion of the Commission there may be established for the life of any construction contract a body to be known as the Liaison Committee, which may be the Executive Office Liaison Committee as established by 301 CMR 50.09 (3) of these regulations. A representative of the grantee shall be a member of the Liaison Committee. The contractor or his agent 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.

(7) Before making the final allocation of funds to any grantee, the Secretary shall review any contracts for construction work to be performed under the grantee, to ascertain the grantee's compliance with the provisions of these regulations.
The following percentages shall apply

Boston:

Impact Area (Jamaica Plain (part), Mattapan, South Cove, Chinatown, Bay Village, Roxbury, Dorchester, South End. 30%

Others 10%

Cambridge: 12%

New Bedford: 18%

Springfield: 10%

All other cities and towns 10%
ARTICLE 10: BLASTING

ORDER NO. 236 of 1988

May 16, 1988

Be it ordered that Chapter 24 of the Zoning Ordinance of the City of Quincy as amended, be further amended in Art. VIII, by adding a new section 87: Blasting.

Section 87

1. Pre-blast Survey

   a. For all permits issued for blasting (rock excavation) in the City of Quincy, a pre-blast survey must be made by the contractor or by an approved firm in this kind of work and satisfactory to the contractor's insurance company.

   b. The pre-blast survey will include a survey of the interior and exterior of existing buildings and stone walls adjacent to the project as specified herein, before any excavation or blasting is done. Written approval must be secured from the Fire Chief, City Engineer and Building Inspector serving as the Committee on Blasting.

   c. The survey shall record all visible structural defects such as cracks, settlement and lines out of plumb.

   d. The survey data shall be recorded in a permanent manner in approved hardbound notebooks. The survey data shall include polaroid photographs showing the building constructions surveyed referenced to the notebook pages. Also a tape recording of all data pertinent to the survey shall be made. The scope and format of the record survey data shall be satisfactory to the Committee on Blasting. Before commencing any blasting or ledge excavation, copies of the survey must be on file at the offices of the Quincy City Engineer, and Quincy City Clerk, City Hall, Quincy, MA.

   e. The adjacent area requiring the pre-blasting survey is specified as all buildings and stone walls within a radius of three hundred fifty feet (350) from said blast.

   f. Provided, however, that no pre-blasting survey shall be required if blasting is within the following limits: The total charge weight per blast does not exceed five (5) pounds and the maximum weight per delay does not exceed two pounds per delay.

YEAS Cahill, Cheney, Chretien, DeCristofaro, McGrath, Nutley, Phelan, Sheets, Toland

NAYS Cahill, Cheney, Chretien, DeCristofaro, McGrath, Nutley, Phelan, Sheets, Toland
g. If blasting is designed to excavate more than a ten (10) cubic yard area, the contractor must post a bond with the City of Quincy. The amount of said bond shall be determined by the Committee on Blasting. The Committee on Blasting will not release the bond until it is convinced that all judgments and claims have been reasonably dealt with by the contractor.

h. All blasting is to be supervised on site by an authorized member of the Fire Department, assigned by the Chief, and the cost of said supervision shall be the sole responsibility of the contractor.

i. Any person who shall violate any of the provisions of this ordinance, as determined by the Committee on Blasting, or who fails to comply therewith, shall severally, for each and every violation and noncompliance respectively, be liable to a penalty of two hundred dollars ($200.00) for each offense.

PASSED TO BE ORDAINED OCTOBER 16, 1989

ATTEST

CLERK OF COUNCIL

APPROVED

OCT 23, 1989

MAYOR

YEAS  Cahill, Cheney, Chretien, DeCristofaro, McGrath, Nutley, Phelan, Sheets, Toland

NAYS  Cahill, Cheney, Chretien, DeCristofaro, McGrath, Nutley, Phelan, Sheets, Toland
ARTICLE 11
EQUITABLE ADJUSTMENT IN CONTRACT PRICE FOR DIFFERENCE IN SUBSURFACE CONDITIONS

Equitable adjustment in contract price for differing subsurface or latent physical conditions

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.
Excerpts from Chapters 30, 82 and 149 of the Massachusetts General Laws

NOTICE - These are NOT the official versions of the Massachusetts General Laws (MGL). While reasonable efforts have been made to assure the accuracy of the excerpts provided, do not rely on this information without first checking an official edition of the MGL. If you are in need of legal advice or counsel, consult a lawyer. These excerpts include amendments to the General Laws passed through February 28, 2017. For laws enacted since that time, see the 2017 Session Laws.

Certain excerpts from the Massachusetts General Laws are applicable to Construction contracts. Attention is directed to the following Sections of Chapter 149 as amended.

Section 25. Lodging, board and trade of public employees; statute part of employment contract.

"Every employee in public work shall lodge, board, and trade where and with whom he elects; and no person or his agents or employees under contract with the commonwealth, a county, city or town, or with a department, board, commission or officer acting therefor, for the doing of public work shall directly or indirectly require, as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person. This section shall be made a part of the contract for such employment."

Section 26. Public works; preference to veterans and citizens; wages.

"In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the commonwealth, or by a county, town, authority or district, or by persons contracting or subcontracting for such works, 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 who are veterans as defined in clause Forty-third of section 7 of chapter 4 and who are qualified to perform the work to which the employment relates and, within such preference, preference shall be given to service-disabled veterans; 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, and every contract for such work shall contain a provision to this effect..."

Section 34. Public contracts; stipulation as to hours and days of work; void contracts.

"Every contract, except for the purchase of material or supplies, involving the employment of laborers, workmen, mechanics, foremen or inspectors, to which the commonwealth or any county or any town, subject to section thirty, is a party, shall contain a stipulation 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 a part of the work contemplated by the contract, 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 emergency, or, in case any town subject to section thirty-one is a party to such a contract, more than eight hours in any one-day, except as aforesaid..."

Section 34A. Contracts for public works; workers’ compensation insurance; breach of contract; enforcement and violation of statute.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or other public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall, before commencing performance of such contract, provide by insurance for the payment of compensation and the furnishing of other benefits under chapter one hundred and fifty-two to all persons to be employed under the contract, and that the contractor shall continue such insurance in full force and effect during the term of the contract. No officer or agent contracting in behalf of the commonwealth or any political subdivision thereof shall award such a contract until he has been furnished with sufficient proof of compliance with the aforesaid stipulations. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the officer or agent who awarded the contract at least fifteen days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice..."

Section 34B. Contracts for public works; wages for reserve police officer.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall pay to any reserve police officer employed by him in any city or town the prevailing rate of wage paid to regular police officers in such city or town."

Whenever general bids are invited for a contract subject to Section 44A, the following provision applies:

Section 44E. Filing of bids; forms; modular buildings. Second paragraph of subdivision (2), clause E.

“The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.”
For projects estimated to cost more than $25,000, the following provision applies to sub-bidders:

Section 44F. Plans and specifications; sub-bids; form; contents. First paragraph of clause I of subdivision (2) of section 44F.

“The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.”

Section 44G. Allowances; alternates; weather protection devices.

“(A) “Allowance” as used herein means a sum of money covering one or more items of labor or labor and materials which is designated in bid documents and which general bidders are required to use in computing their bids. The use of such allowances shall be prohibited in the award of any contract subject to the provisions of section forty-four A. Whenever the designer is unable to supply specifications for any item prior to the solicitation of bids, such item shall not be included in any contract subject to the provisions of section forty-four A. The awarding authority shall solicit bids for every such item separately pursuant to the provisions of section forty-four A after specifications for that item are prepared.

(B) Every alternate contained in the form for general bids shall be listed in a numerical sequence in order of priority. When the awarding authority decides to consider alternates in determining the lowest eligible and responsible bidder, the awarding authority shall consider the alternates in descending numerical sequence, such that no single alternate shall be considered unless every alternate preceding it on the list has been added to or subtracted from the base bid price.

(C) The use of options other than alternates in bid documents or bid forms subject to section forty-four A shall be prohibited under all circumstances.

(D) Every contract subject to section forty-four A shall include specifications for the installation of weather protection and shall require that the contractor shall install the same and that he shall furnish adequate heat in the area so protected during the months of November through March. Standards for such specifications shall be established by the commissioner or his designee.”

Section 44J. Invitations to bid; notice; contents; violations; penalty.

"(1) No public agency or authority of the commonwealth or any political subdivision thereof shall award any contract for which competitive bids are required pursuant to section forty-four A of this chapter or section thirty-nine M of chapter thirty, or for which competitive proposals are required pursuant to subsection (4) of section forty-four E of this chapter or section eleven C of chapter twenty-five A, unless a notice inviting bids or proposals therefor shall have been posted no less than one week prior to the time specified in such notice for the receipt of said bids or proposals in a
conspicuous place in or near the offices of the awarding authority, and shall have remained posted until the time so specified, and unless such notice shall also have been published at least once not less than two weeks prior to the time so specified in the central register published by the secretary of state pursuant to section twenty A of chapter nine and in a newspaper of general circulation in the locality of the proposed project, and on the COMMBUYS system administered by the operational services division. Said notice shall also be published at such other times and in such other newspapers or trade periodicals as the commissioner of capital asset management and maintenance may require, having regard to the locality of the work involved.

(2) Said notice shall specify the time and place where plans and specification of the proposed work may be had; the time and place of submission of general bids; and the time and place for opening of the general bids. For contracts subject to the provisions of section forty-four A to H, inclusive, of this chapter, said notice shall also specify the time and place for submission of filed sub-bids, where required pursuant to section forty-four F; and the time and place for opening of said filed sub-bids.

Said notice shall also provide sufficient facts concerning the nature and scope of such project, the type and elements of construction, and such other information as will assist applicants in deciding to bid on such contract.

(3) No contract or preliminary plans and specifications shall be split or divided for the purpose of evading the provisions of this section.

(4) General bids and filed sub-bids for any contract subject to this section shall be in writing and shall be opened in public at the time and place specified in the posted or published notice, and after being so opened shall be open to public inspection.

(5) The provisions of this section shall not apply to any transaction between the commonwealth and any public service corporation.

(6) The provisions of this section may be waived in cases of extreme emergency involving the health and safety of the people and their property, upon the written approval of said commissioner. The written approval shall contain a description of the circumstances and the reasons for the commissioner's determination.

(7) Whoever violates any provision of this section shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than three years or in a jail or house of correction for not more than two and one-half years, or by both said fine and imprisonment; and in the event of final conviction, said person shall be incapable of holding any office of honor, trust or profit under the commonwealth or under any county, district of municipal agency.

Each and every person who shall cause or conspire to cause any contract or preliminary plans and specifications to be split or divided for the purpose of evading the provisions of this section shall forfeit and pay to the commonwealth, a political subdivision thereof or other awarding authority subject to this section, the sum of not more than five thousand dollars and, in addition, such person or persons shall pay, apportioned among them, double the amount of damages which the
commonwealth or political subdivision thereof or other awarding authority may have sustained by reason of the doing of such act, together with the costs of the action.

(8) If an awarding authority rejects all general bids or does not receive any general bids, and advertises for a second opening of general bids with the original filed sub-bids as set forth in subsection (1) of section forty-four E the notice for receipt of such general bids may be published in the central register and elsewhere as required not less than one week prior to the time specified for such second opening of general bids.

(9) No request for proposals or invitation for bids issued under sections 38A ½ to 38O, inclusive, of chapter 7, section 11C of chapter 25A, section 39M of chapter 30, this section and sections 44A to 44H, inclusive, shall be advertised if the awarding authority’s cost estimate is greater than 1 year old.”

Attention is directed to the following sections of Chapter 30 of the General Laws of Massachusetts as amended to date.

Section 38A. Price adjustment clause in contracts for road, bridge, water and sewer projects awarded under Sec. 39M

“Contracts for road and bridge projects awarded as a result of a proposal or invitation for bids under section 39M shall include a price adjustment clause for each of the following materials: fuel, both diesel and gasoline; asphalt; concrete; and steel. Contracts for water and sewer projects awarded as a result of a proposal or invitation for bids under said section 39M shall include a price adjustment clause for fuel, both diesel and gasoline; liquid asphalt; and portland cement contained in cast-in-place concrete. A base price for each material shall be set by the awarding authority or agency and shall be included in the bid documents at the time the project is advertised. The awarding authority or agency shall also identify in the bid documents the price index to be used for each material. The price adjustment clause shall provide for a contract adjustment to be made on a monthly basis when the monthly cost change exceeds plus or minus 5 per cent.”

Section 39F. Construction contracts; assignment and subrogation; subcontractor defined; enforcement of claim for direct payment; deposit; reduction of disputed amounts.

"(1) Every contract awarded pursuant to sections forty-four A to L inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

(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 also 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 (a) and (b), 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 demand shall contain a detailed breakdown of the balance due under the subcontract and also 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 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 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 deductions 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 (e) 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 demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (f) 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 (f), 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 (a) 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 (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) 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 (f) of paragraph (1) 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 H, inclusive, of chapter one hundred forty-nine shall mean a person who
files a sub-bid and receives 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 (a) 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 forty-four A to forty-four H, 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 deposited as provided in subparagraph (f) of paragraph 1 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 (f) of paragraph 1 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 in excess
of 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 (e) and in subparagraph (f) of paragraph
(1).

(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 (e) and in
paragraph (f) of paragraph (1) any amount held under a trustee writ or pursuant to a restraining
order or injunction.”

Section 39G. Completion of public works; semi-final and final estimates; payments; extra
work; disputed items.

"Upon substantial completion of the work required by a contract with the commonwealth, 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 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. In the event that 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 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, if
held by the awarding authority, on that work, including the quantity, price and all but one percent
retainage, if held by the awarding authority, for the 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 payment 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
rediscout 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, subsequent to 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, if held by the awarding authority, 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 therefor, 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 so 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 has 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 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 its 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.

Section 39I. Deviations from plans and specifications.

"Every contractor having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the plans and specifications contained therein. No wilful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the awarding authority or by the engineer or architect in charge of the work who is duly authorized by the awarding authority to approve such deviations. In order to avoid delays in the prosecution of the work required by such contract such deviation from the plans or specifications may be authorized by a written order of the awarding authority or such engineer or architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the awarding authority stating: (1) if such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the contracting agency and the contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the contracting authority.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the work contracted for.

Whoever violates any provision of this section wilfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both."
Section 39J. Public construction contracts; effect of decisions of contracting body or administrative board.

“Notwithstanding any contrary provision of any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public works by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount of the contract is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, a decision, by the contracting body or by any administrative board, official or agency, or by any architect or engineer, on a dispute, whether of fact or of law, arising under said contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily is unsupported by substantial evidence, or is based upon error of law.”

Section 39K. Public building construction contracts; payments.

"Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, shall contain the following paragraph: 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 owner 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 of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston.
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 a periodic 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 changes 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 subtrade
and each sub-subtrade listed in sub-bid form as required by specifications and a column listing the
amount paid to each subcontractor and sub-subcontractor as of the date 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 based on the 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 terminations 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.”

Section 39L. Public construction work by foreign corporations; restrictions and reports.

“The commonwealth and every county, city, town, district, board, commission or other public body which, as the awarding authority, request proposals, bids or sub-bids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a contract for such work with, and shall not approve as a subcontractor furnishing labor and materials for a part of the work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that the corporation has complied with requirements of section 15.03 of subdivision A of Part 15 of chapter 156D and the date of compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of said chapter 156D, and (2) shall report to the state secretary and to the department of corporations and taxation any foreign corporation performing work under such contract or subcontract, and any person, other than a corporation, performing work under such contract or subcontract, and residing or having a principal place of business outside the commonwealth.”

Section 39M. Contracts for construction and materials; manner of awarding.

"(b) Specifications for such contracts, and specifications for contracts awarded pursuant to the provisions of said sections forty-four A to forty-four L of said chapter one hundred and forty-nine, shall be written to provide for full competition for each item of material to be furnished under the contract; except, however, that said specifications may be otherwise written for sound reasons in the public interest stated in writing in the public records of the awarding authority or promptly given in writing by the awarding authority to anyone making a written request therefor, in either instance such writing to be prepared after reasonable investigation. Every such contract shall provide that an item equal to that named or described in the said specifications may be furnished; and an item shall be considered equal to the item so named or described if, in the opinion of the awarding authority: (1) it is at least equal in quality, durability, appearance, strength and design, (2) it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased, and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the said specifications.

For each item of material the specifications shall provide for either a minimum of three named brands of material or a description of material which can be met by a minimum of three manufacturers or producers, and for the equal of any one of said named or described materials."
For projects estimated to cost more than $10,000, the following provision, section 39M subsection c, applies:

“(c) The term "lowest responsible and eligible bidder" shall mean the bidder: (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified thereunder; and (5) who obtains within 10 days of the notification of contract award the security by bond required under section 29 of chapter 149; provided that for the purposes of this section the term "security by bond" shall mean the bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority; provided further, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.”

Section 39N. Construction contracts; equitable adjustment in contract price for differing subsurface or latent physical conditions.

"Every contract subject to section forty-four A of chapter one hundred and forty-nine or subject to section thirty-nine M of chapter thirty shall contain the following paragraph in its entirety and an awarding authority may adopt reasonable rules or regulations in conformity with that paragraph concerning the filing, investigation and settlement of such claims:

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."
Section 39O. Contracts for construction and materials; suspension, delay or interruption due to order of awarding authority; adjustment in contract price; written claim.

"Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety and, in the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

(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 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."

Section 39P. Contracts for construction and materials; awarding authority’s decisions on interpretation of specifications, etc.; time limit; notice.

"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."
Section 39Q. Contracts for capital facility construction; contents; annual claims report.

“(1) Every contract awarded by any state agency as defined by section thirty-nine A of chapter seven for the construction, reconstruction, alteration, remodeling, repair or demolition of any capital facility as defined by the aforesaid section thirty-nine A shall contain the following subparagraphs (a) through (d) in their entirety:

(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 as a result 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 therefor, 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 period 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 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.

(2) The commissioner of administration shall require the division of hearings officers to prepare annually a report concerning the construction contract claims submitted to the division during the preceding twelve months, in such form as the commissioner shall prescribe. The report shall contain, at a minimum, the following information: the number of claims submitted; the names of all parties to each such claim; a brief description of the claim; the date of submission and of disposition of the claim; its disposition, whether by settlement, withdrawal, default or written decision; and the number of claims currently pending. The original of the report shall be submitted to the commissioner of administration by January fifteenth, and a copy shall be filed with the state librarian and shall be a public document.”

Section 39R. Keeping and maintaining of books, records and accounts; statement of management on internal accounting control; financial statements; enforcement.

“(a) The words defined herein shall have the meaning stated below whenever they appear in this section:

(1) "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A to forty-four H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.

(2) "Contract" means any contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A through forty-four H, inclusive, of chapter one hundred and forty-nine, which is for amount or estimated amount greater than one hundred thousand dollars.

(3) "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.
(4) "Independent Certified Public Accountant" 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 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.

(5) "Audit," when used in regard to 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.

(6) "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets forth his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

(7) "Management," when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.

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

(b) Subsection (a)(2) hereof notwithstanding, every agreement or contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven, or eleven C of chapter twenty-five A, and pursuant to section thirty-nine M of chapter thirty or to section forty-four A through H, inclusive, of chapter one hundred and forty-nine, shall provide that:

(1) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and

(2) until the expiration of six years after final payment, the office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the contractor or of his subcontractors that directly pertain to, and involve transactions relating to, the contractor or his subcontractors, and
(3) if the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description 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, and

(4) if the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and

(5) if the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.

(c) Every contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the contractor and subsidiaries reasonably assures that:

(1) transactions are executed in accordance with management's general and specific authorization;

(2) transactions are recorded as necessary:

i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and

ii. 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.

Every contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he 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 this paragraph, and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and

(2) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.
(d) Every contractor awarded a contract by the commonwealth or by any political subdivision thereof shall annually file with the commissioner of capital asset management and maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of 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 awarding authority upon request.

(e) The office of inspector general, the commissioner for capital asset management and maintenance and any other awarding authority shall enforce the provisions of this section. The commissioner of capital asset management and maintenance may after providing an opportunity for the inspector general and other interested parties to comment, promulgate pursuant to the provisions of chapter thirty A such rules, regulations and guidelines as are necessary to effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all awarding authorities. A contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of chapter one hundred and forty-nine.

(f) Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause (2) of paragraph (b).”

Section 39S. Contracts for construction; requirements.

“(a) As used in this section the word "person" shall mean any natural person, joint venture, partnership corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the commonwealth, or political subdivision thereof, or by any county, city, town, district, or housing authority, and estimated by the awarding authority to cost more than $10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than $10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

(1) That he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

(b) Any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States
Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding.”

**Section 40. Discharge or release of bonds.**

"Bonds given to the commonwealth, any county, city, town or political subdivision to secure the performance of contracts for the construction or repair of public buildings or other public works may be discharged or released by the awarding authority, upon such terms as it deems expedient, after the expiration of one year from the time of completion, subject to section thirty-nine K, of the work contracted to be done; provided that no claim filed under said bond is pending, and provided further, that no such bonds shall be discharged or released prior to the expiration of all special guarantees provided for in the contract unless new bonds in substitution therefor specifically relating to the unexpired guarantees shall be taken."

**Attention is directed to the following sections of Chapter 82 of the General Laws of Massachusetts as amended to date.**

**Section 40. Definitions.**

"The following words, as used in this section and sections 40A to 40E, inclusive, shall have the following meanings:

"**Company**, natural gas pipeline company, petroleum or petroleum products pipeline company, public utility company, cable television company, and municipal utility company or department that supply gas, electricity, telephone, communication or cable television services or private water companies within the city or town where such excavation is to be made.

"**Description of excavation location**, such description shall include the name of the city or town, street, way, or route number where appropriate, the name of the streets at the nearest intersection to the excavation, the number of the buildings closest to the excavation or any other description, including landmarks, utility pole numbers or other information which will accurately define the location of the excavation.

"**Emergency**, a condition in which the safety of the public is in imminent danger, such as a threat to life or health or where immediate correction is required to maintain or restore essential public utility service.

"**Excavation**, an operation for the purpose of movement or removal of earth, rock or the materials in the ground including, but not limited to, digging, blasting, augering, backfilling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, jacking in, trenching, tunneling and
demolition of structures, excluding excavation by tools manipulated only by human power for gardening purposes and use of blasting for quarrying purposes.

"Excavator", any entity including, but not limited to, a person, partnership, joint venture, trust, corporation, association, public utility, company or state or local government body which performs excavation operations.

"Premark", to delineate the general scope of the excavation or boring on the paved surface of the ground using white paint, or stakes or other suitable white markings on nonpaved surfaces. No premarking shall be acceptable if such marks can reasonably interfere with traffic or pedestrian control or are misleading to the general public. Premarking shall not be required of any continuous excavation that is over 500 feet in length.

"Safety zone", a zone designated on the surface by the use of standard color-coded markings which contains the width of the facilities plus not more than 18 inches on each side.

"Standard color-coded markings", red - electric power lines, cables, conduit or light cables; yellow - gas, oil, street petroleum, or other gaseous materials; orange - communications cables or conduit, alarm or signal lines; blue - water, irrigation and slurry lines; green - sewer and drain lines; white - premark of proposed excavation.

"System", the underground plant damage prevention system as defined in section 76D of chapter 164.

Section 40A. Excavations; notice.

“No excavator installing a new facility or an addition to an existing facility or the relay or repair of an existing facility shall, except in an emergency, make an excavation, in any public or private way, any company right-of-way or easement or any public or privately owned land or way, unless at least 72 hours, exclusive of Saturdays, Sundays and legal holidays but not more than 30 days before the proposed excavation is to be made, such excavator has premarked not more than 500 feet of the proposed excavation and given an initial notice to the system. Such initial notice shall set forth a description of the excavation location in the manner as herein defined. In addition, such initial notice shall indicate whether any such excavation will involve blasting and, if so, the date and the location at which such blasting is to occur.

The notice requirements shall be waived in an emergency as defined herein; provided, however, that before such excavation begins or during a life-threatening emergency, notification shall be given to the system and the initial point of boring or excavation shall be premarked. The excavator shall ensure that the underground facilities of the utilities in the area of such excavation shall not be damaged or jeopardized.
In no event shall any excavation by blasting take place unless notice thereof, either in the initial notice or a subsequent notice accurately specifying the date and location of such blasting shall have been given and received at least 72 hours in advance, except in the case of an unanticipated obstruction requiring blasting when such notice shall be not less than four hours prior to such blasting. If any such notice cannot be given as aforesaid because of an emergency requiring blasting, it shall be given as soon as may be practicable but before any explosives are discharged.”

Section 40B. Designation of location of underground facilities.

“Within 72 hours, exclusive of Saturdays, Sundays and legal holidays, from the time the initial notice is received by the system or at such time as the company and the excavator agree, such company shall respond to the initial notice or subsequent notice by designating the location of the underground facilities within 15 feet in any direction of the premarking so that the existing facilities are to be found within a safety zone. Such safety zone shall be so designated by the use of standard color-coded markings. The providing of such designation by the company shall constitute prima facie evidence of an exercise of reasonable precaution by the company as required by this section; provided, however, that in the event that the excavator has given notice as aforesaid at a location at which because of the length of excavation the company cannot reasonably designate the entire location of its facilities within such 72 hour period, then such excavator shall identify for the company that portion of the excavation which is to be first made and the company shall designate the location of its facilities in such portion within 72 hours and shall designate the location of its facilities in the remaining portion of the location within a reasonable time thereafter. When an emergency notification has been given to the system, the company shall make every attempt to designate its facilities as promptly as possible.”

Section 40C. Excavator’s responsibility to maintain designation markings; damage caused by excavator.

“After a company has designated the location of its facilities at the location in accordance with section 40B, the excavator shall be responsible for maintaining the designation markings at such locations, unless such excavator requests remarking at the location due to the obliteration, destruction or other removal of such markings. The company shall then remark such location within 24 hours following receipt of such request.

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facility and any further excavation shall be performed employing reasonable precautions to avoid damage to any underground facilities including, but not limited to, any substantial weakening of structural or lateral support of such facilities, penetration or destruction of any pipe, main, wire or conduit or the protective coating thereof, or damage to any pipe, main, wire or conduit.
If any damage to such pipe, main, wire or conduit or its protective coating occurs, the company shall be notified immediately by the excavator responsible for causing such damage.

The making of an excavation without providing the notice required by section 40A with respect to any proposed excavation which results in any damage to a pipe, main, wire or conduit, or its protective coating, shall be prima facie evidence in any legal or administrative proceeding that such damage was caused by the negligence of such person.”

Section 40D. Local laws requiring excavation permits; public ways.

“Nothing in this section shall affect or impair local ordinances or by-laws requiring a permit to be obtained before excavation in a public way or on private property; but notwithstanding any general or special law, ordinance or by-law to the contrary, to the extent that any permit issued under the provisions of the state building code or state fire code requires excavation by an excavator on a public way or on private property, the permit shall not be valid unless the excavator notifies the system as required pursuant to sections 40 and 40A, before the commencement of the excavation, and has complied with the permitting requirements of chapter 82A.”

Section 40E. Violations of Secs. 40A to 40E; punishment.

“Any person or company found by the department of telecommunications and energy, after a hearing, to have violated any provision of sections 40A to 40E, inclusive, shall be fined $1000 for the first offense and not less than $5,000 nor more than $10,000 for any subsequent offense within 12 consecutive months as set forth by the rules of said department; provided, however, that nothing herein shall be construed to require forfeiture of any penal sum by a state or local government body for violation of section 40A or 40C; and provided, further, that nothing herein shall be construed to require the forfeiture of any penal sum by a residential property owner for the failure to premark for an excavation on such person's residential property.”

Attention is directed to the following sections of Chapter 30 of the Acts of 2009.

Section 33.

“(a) Notwithstanding any general or special law to the contrary, the following requirements shall apply to any public works project funded by the American Recovery and Reinvestment Act of 2009 where the amount of construction costs under any contract awarded is likely to exceed $1,000,000. For the purposes of this section, "public works" shall mean building or work the construction of which is carried on by authority of the commonwealth, or by a county, town, authority or district, or with funds of a federal agency or the commonwealth or a county, city, town, authority or district to serve the interest of the general public, regardless of whether title thereof is in the commonwealth or in a county, city, town, authority or district; provided, however, that for the purposes of this definition, "construction" shall have the meaning provided in section 27D of chapter 149 of the General Laws.

(b) For any public works project subject to subsection (a), the specifications set forth in any request for responses shall include a requirement that, on a per project basis, not less than 20 per cent of the
total hours of employees receiving an hourly wage who are directly employed on the site of the project, employed by the contractor or a subcontractor and subject to the prevailing wage, shall be performed by apprentices in bona fide apprentice training programs as provided in sections 11H and 11I of chapter 23 of the General Laws which are approved by the division of apprentice training in the executive office of labor and workforce development.

(c) During the performance of a public works project subject to subsections (a) and (b), the contractor shall submit periodic reports to the awarding authority with records indicating the total hours worked by all journeymen and apprentices in positions subject to the apprentice requirement. In any instance in which the apprentice hours do not constitute 5 per cent of the total hours of employees subject to the apprentice requirement, the contractor shall submit a plan to the awarding authority describing how the contractor shall comply with the apprentice requirement.

(d) The attorney general shall have all the necessary powers to require compliance with the requirements of subsections (a), (b) and (c) therewith, including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts. Prior to award of the contract, an awarding authority may petition the attorney general for approval to adjust the requirements set forth in said subsections (a), (b) and (c). The attorney general may adjust these requirements only if he determines that compliance with these requirements is not feasible or if application of the requirements would be preempted by federal law.

(e) An awarding authority serving a low-income population may require additional specifications that address the needs of its clients including, but not limited to, preferential hiring for residents of public housing authorities for available apprenticeship positions.

(f) Subject to appropriation, the division of apprentice training shall enhance its outreach efforts to underserved populations in order to increase and diversify the number of apprentices in the commonwealth.”

Section 39.

“Any entity located in the commonwealth that receives federal funds through the American Recovery and Reinvestment Act of 2009 shall provide information as directed by the secretary of administration and finance regarding the use of the funds. The required information shall include, but not be limited to, the reporting information required by the federal government and any other information deemed necessary by the secretary to administer the American Recovery and Reinvestment Act of 2009 responsibly, efficiently and transparently. To the extent possible, the secretary shall work to streamline the reporting of this information, minimize duplication of data entry by recipients and ensure data consistency. The secretary may issue regulations to effectuate this reporting requirement.”

Section 40.

“Employers and hiring agents on all projects funded in whole or in part by the American Recovery and Reinvestment Act of 2009 shall post notices of available employment opportunities to the
commonwealth’s job bank or the one-stop career centers closest to where the projects shall be located. The postings shall contain such information as directed by the secretary of labor and workforce development. The secretary may issue regulations to effectuate this job posting requirement.”

END OF SECTION
SECTION 00890

PERMITS

PART 1 – GENERAL

1.01 DESCRIPTION:

This Section provides specific information and defines specific requirements of the Contractor regarding the preparation and acquisition of permits required to perform the work of this project.

1.02 RELATED WORK:

A. Section 01110, CONTROL OF WORK AND MATERIALS

B. Section 01550, SIGNAGE (TRAFFIC CONTROL)

1.03 GENERAL REQUIREMENTS:

A. The Contractor shall obtain certain permits, as indicated. The Contractor shall obtain and pay for all other permits required, as defined under the Permits subsection of Section 00700, GENERAL CONDITIONS.

<table>
<thead>
<tr>
<th>Permits by Owner</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trench Permit (520 CMR 14.00)(eff. date 3/1/09)</td>
<td>*</td>
</tr>
<tr>
<td>City of Quincy Road/Street Opening Permit</td>
<td>*</td>
</tr>
<tr>
<td>City of Quincy – Hydrant Use Permit</td>
<td>*</td>
</tr>
<tr>
<td>MWRA TRAC Request to Conduct a Root Control Project (Permit application attached for reference)</td>
<td>*</td>
</tr>
<tr>
<td>MWRA TRAC One-Time-Only Request to Discharge from CIPP Lining Process (permit application attached for reference)</td>
<td>*</td>
</tr>
</tbody>
</table>

*Contractor shall prepare permit application and obtain the permit after contract is awarded, bearing all expenses.
PART 2 - PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS:

A. The Contractor shall perform the work in accordance with the Contract Documents, including the attached permits/order of conditions, and any applicable municipal requirements.

B. Prior to commencing any construction activities, the Contractor shall demonstrate to the Owner and the Engineer, through on-site inspection and submitting copies of permits or approvals, that it is in full compliance with the terms and conditions of all permits specified herein. The Contractor shall maintain full compliance with all permits throughout the performance of the work, and upon request, grant access to permitting authorities to inspect the site for the purpose of verifying such compliance.

END OF SECTION
MWRA REQUEST TO CONDUCT A ROOT CONTROL PROJECT
Submit your request for approval to use the foaming root control herbicide to Kattia Thomas, Project Manager, Permitting, Massachusetts Water Resources Authority, Toxic Reduction and Control, 2 Griffin Way, Chelsea MA 02150-3334. Also, you may fax the request to Ms. Thomas, the fax number is 617-371-1604.

If you have any questions regarding the approval process, you may contact Kattia Thomas, at 617-305-5667.
Request To Conduct
A Root Control Project

Name of Municipality: _________________________________________________________

Name of the person from the Municipality to contact concerning the information provided herein. (Please, sign page 2 of this questionnaire, without a signature from the municipality the MWRA will not be able to process this request.)

Name: ___________________________________________________________________
Title:  ___________________________________________________________________
Address:  ___________________________________________________________________
Telephone No.: ______________________ Facsimile No.: ______________________

Person designated by the Municipality to receive correspondence from the MWRA regarding this project.

Name: ___________________________________________________________________
Title:  ___________________________________________________________________
Address:  ___________________________________________________________________
Telephone No.: ______________________ Facsimile No.: ______________________

1. Provide a description of the project.

2. Indicate the location and length (linear feet) of pipe to be treated?

   Provide street name(s) and provide a map if applicable.
3. Indicate the name of the active ingredient that will be used each day.

   Provide the MSDS(s) for the chemical(s) that will be used.

4. Indicate the name and volume (gallons) of the solvent or water and the active ingredient to be used each day.

   ____________________________________  __________________
   Solvent Name (provide the name)        Volume (gallons/day)

   ____________________________________  __________________
   Active Ingredient Name                 Volume (gallons/day)

5. The total pounds of solution (the active ingredient) to be used each day?

6. The total pounds of solution (the active ingredient) to be used for the entire project?

7. The total number of days the pipes will be treated?

   Anticipated first day of the project: ______________________

   Anticipated last day of the project: ______________________

8. The time of day for the treatment?

9. The amount of time (hours) the active ingredient will remain in the sewer pipe after the treatment process?

Signature (Municipality)  ____________________________  Date

FAX this page to Kattia Thomas, Proj. Mgr, Permitting, TRAC, the fax number is 617-371-1604.

PLEASE, ALLOW THREE WEEKS FOR PROCESSING THIS REQUEST
MWRA ONE-TIME-ONLY DISCHARGE REQUEST PERMIT
Submit for approval this MWRA Questionnaire for a One-Time-Only Discharge Request to discharge wastewater from a sewer pipe lining/curing project into the Authority sewer system. Submit the completed form to:

Massachusetts Water Resources Authority
Toxic Reduction and Control
2 Griffin Way, Chelsea, MA 02150-3334
Attention: Kattia Thomas, Project Manager, Permitting

If you have any questions regarding the approval process, you may contact Kattia Thomas, at 617-305-5667.
One-Time-Only Discharge Request
To discharge from a Cured-in-Place Pipe (CIPP) Lining process as part of a sewer rehabilitation project into the Municipality or Authority sewerage system

Please, allow three weeks for processing this request

Name of Municipality: ________________________________________________________

Project Name: ______________________________________________________________________

Name of the person from the Municipality to contact concerning the information provided herein. (Please, sign the signature page of this questionnaire, without a signature from the Municipality the MWRA will not be able to process this request.)

Name: ______________________________________________________________________

Title: ______________________________________________________________________

Address: ______________________________________________________________________

Telephone No.: _______________ Facsimile No.: ____________________

E Mail: ______________________________________________________________________

Contractor designated by the Municipality to conduct the project.

Name: ______________________________________________________________________

Title: ______________________________________________________________________

Company: ______________________________________________________________________

Address: ______________________________________________________________________

Telephone No.: _______________ Facsimile No.: ____________________

E Mail: ______________________________________________________________________

MWRA Permit Number: ____________________
Person designated by the Municipality to receive correspondence from the MWRA regarding this project.

Name: ________________________________________________________________

Title: ___________________________________________________________________

Company: __________________________________________________________________

Address: __________________________________________________________________

Telephone No.:________________________ Facsimile No.: ________________________
GENERAL INFORMATION:

Please answer all of the questions
(If more space is needed, attach additional pages).

a) Cured-in-Place Pipe (CIPP) Liner is defined as a woven or non-woven or combination of woven and non-woven material surrounded or impregnated with resin which when installed and processed, forms to the shape and size of the interior walls of the host conduit as defined in ASTM Standard F1216.

b) Host Conduit is defined as the existing pipeline to be rehabilitated by CIPP Lining. The host conduit for this project must be indicated on the Contract Drawings.

1. Indicate the project scope. Provide pipe location and pipe length and diameter of each pipe to be treated. Use a pipe identification naming scheme that references the drawings and that will be recognizable by all parties. Identify all of the connection (using the name provide in Attachment A of the MWRA Municipal Discharge Permit) of the receiving MWRA interceptor and submit a diagram and drawing that will trace the flow from the project pipe to the MWRA interceptor.

Project scope and location: __________________________________________________________

________________________________________

________________________________________

<table>
<thead>
<tr>
<th>Pipe Location</th>
<th>Sewer Connection of the receiving MWRA interceptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Length (Feet)</td>
<td>Pipe Diameter (Inches)</td>
</tr>
<tr>
<td>(Provide name in Attachment A of the MWRA Municipal Discharge Permit)</td>
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</tbody>
</table>
2. Indicate how you will conduct the pipe cleaning process prior to the lining process.

3. Indicate the proposed installation method that you will employ for the CIPP liner into the existing pipe.

4. Indicate all of the appropriate Federal, state, and local permits and approvals obtained for this CIPP project.

5. Submit the Materials Safety Data Sheet(s) for the CIPP lining materials.
6. Indicate all source(s) of wastewater curing/lining process wastewater, cooling water, rinse water, pre-clean water, post-clean water, and, etc to be discharged into MWRA sewer system from this project.

<table>
<thead>
<tr>
<th>Wastewater Type(s)</th>
<th>Source(s)</th>
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<tbody>
<tr>
<td>Curing water</td>
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<tr>
<td>Cooling water</td>
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<tr>
<td>Rinsing water</td>
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<td>Pre-cleaning water</td>
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<td>Post-cleaning water</td>
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<tr>
<td>Other <em>(Describe)</em></td>
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<td>Other <em>(Describe)</em></td>
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</tbody>
</table>
7. Describe the proposed pretreatment for the wastewater curing/lining process wastewater, cooling water, rinse water, pre-clean water, post-clean water, and, etc and provide equipment/flow diagram(s).
8. Indicate the storage method for treated and/or untreated curing\lining process wastewater, cooling water, rinse water, pre-clean water, post-clean water, etc, and provide its capacity in gallons prior to discharge into the MWRA sanitary sewer system.

<table>
<thead>
<tr>
<th>Wastewater Type(s)</th>
<th>Storage method prior to discharge into MWRA sanitary sewer system.</th>
<th>Storage capacity (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curing\lining process water</td>
<td></td>
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<tr>
<td>Cooling water</td>
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<tr>
<td>Rinsing water</td>
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<tr>
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<tr>
<td>Post-cleaning water</td>
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<tr>
<td>Other (Describe)</td>
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</tbody>
</table>

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9. Indicate proposed volume of wastewater (curing\lining process wastewater, cooling water, rinse water, pre-clean water, post-clean water, and, etc..) flow into the MWRA sewer system per day gallons per day (GPD).

<table>
<thead>
<tr>
<th>Wastewater Type(s)</th>
<th>Volume(GPD) Discharge into MWRA sanitary sewer system</th>
<th>Pretreatment Yes/No</th>
<th>Pretreatment Type(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curing\lining process water</td>
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<td>Yes □</td>
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<td>No □</td>
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<tr>
<td>Cooling water</td>
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<td>Yes □</td>
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<td>Pre-cleaning water</td>
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<td>Post-cleaning water</td>
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<tr>
<td>Other (Describe)</td>
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</tbody>
</table>
10. Describe other method(s) for the collection and disposal for the curing\lining process wastewater, cooling water, and/or rinse water if pretreatment is not viable, and the discharge to the MWRA sanitary sewer system is not authorized.

11. Indicate if solids will be generated from the treatment process, including solidified styrene and other solid byproducts. All solids must be removed from the cure water and subsequent cooling and rinsing operations, prior to discharge into MWRA sewer system, pursuant 360 C.M.R. 10.023(8).
12. Indicate proposed date(s) of discharge into the MWRA sewer system.

**Anticipated first day of discharge:** _________________

**Anticipated last day of discharge:** _________________

**Proposed hours of discharge into MWRA sewer system:** _________________

13. Provide the construction schedule for the project including specific proposed date(s) and start and end times. If specific dates are not known, please use Day 1 (one) for taking the pipe out of service and count forward from there. If individual operating time will take less than twenty-four hours, specify start and end times in military time.

<table>
<thead>
<tr>
<th>Action(s)</th>
<th>Date (mm/dd/yyyy)</th>
<th>Operating Time (hrs:min:sec)</th>
<th>Comments(s)</th>
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<tr>
<td>Taking pipe out of service</td>
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<tr>
<td>Pre-cleaning of pipe (Start)</td>
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<td>Pre-cleaning of pipe (End)</td>
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<td>Line installation (Start)</td>
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<td>Line installation (End)</td>
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<tr>
<td>Curing process (Start)</td>
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<td>Curing process (End)</td>
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<td>Cooling process (Start)</td>
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<td>Cooling process (End)</td>
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<td>Rinsing (Start)</td>
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<td>Rinsing (End)</td>
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<tr>
<td>Return pipe to service</td>
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<tr>
<td>Other (Describe)</td>
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</tbody>
</table>
14. Indicate how you will ensure that sufficient capacity (gallons) at the construction zone in the event of a storm event. Describe how flow through the pipe will be diverted around the construction zone and provide rerouting plans, and pipe blockage techniques that you will employ. Specify materials that will be used and storage measures that will be employed.
15. **CERTIFICATION STATEMENT AND SIGNATURE:**
The questionnaire for a One-Time-Only Discharge Request must be signed and dated by an authorized representative. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the sewer system, a new authorization satisfying the requirements of this section must be submitted to the MWRA prior to or together with any reports to be signed by an authorized representative.

An authorized representative of a municipality includes:

a) a responsible public official, including a Mayor, City Manager, Town Administrator, Chair of the Board of Selectman, District Manager, or any other person who performs similar policy or decision-making functions for the municipality, or the director, manager, or superintendent of the department responsible for operating or overseeing the operation of the sewer system, if authority to sign documents has been assigned or delegated to the individual in accordance with the municipality’s procedures.

b) the duly authorized representative of the individual designated in (a) of this section if:

   i) the authorization is made in writing by the individual described in (a);

   ii) the authorization specifies either an individual or a position having responsibility for the overall operation of the sewer system from which the discharge originates, such as the position of superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the municipality;

   iii) the written authorization is submitted to the MWRA.

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

_____________________________
Signature of Authorized Representative

_____________________________
Please Print Name of Authorized Representative

_____________________________
Title

_____________________________
Date

**PLEASE, ALLOW THREE WEEKS FOR PROCESSING THIS REQUEST**

*Do not alter this form*
PART 1- GENERAL

1.01 WORK INCLUDED:

A. This Section of the specifications covers the scope and sequence of work for the “Wollaston Beach SSES Rehabilitation Project Phase II” in Quincy, Massachusetts, including:

   The scope of work includes construction of the following:

   **Base Bid:**
   The work includes the cleaning, inspecting, testing and sealing 2,819 lf of sewers; exterior sealing and cementitious lining of 128 manholes; chemical root treatment of 9,350 lf of sewers; installation of 12 lf of short liner; installation of cured-in-place-pipe from manhole-to-manhole in 21,675 lf of sewers; television inspecting, testing and sealing 48 service connections; cutting 4 protruding service connections; rebuilding sewer manhole benches and inverts of up to 5 manholes; and other related tasks.

   **Alternate No. 1:**
   The work includes the epoxy lining of 5 air release and force main manholes, protective wrapping the piping in 5 air release and force main manholes, replacing the piping in 4 air release manholes, and replacing the blind flanges in 4 air release manholes; pavement repair; and other related tasks.

B. The Contractor shall furnish all labor, materials, equipment, and incidentals required to complete the work as shown on the drawings and as specified herein.

C. Base bid sewer system rehabilitations include:

   1. Lining of sewer mains (manhole to manhole) to repair and seal multiple cracks and holes which are leaking or have the potential to leak (refer to Section 02428, CURED-IN-PLACE PIPE);

   2. Installing short liners in sewer mains to repair and seal cracks and holes which are leaking or have the potential to leak (refer to Section 02429, CURED-IN-PLACE SHORT LINER);

   3. Rehabilitating manholes including invert sealing, exterior sealing, interior cementitious lining, and the repair of manhole benches, inverts and chimneys (refer to Section 02435, SEWER MANHOLE REHABILITATION);
4. Chemical root treatment (refer to Section 02437, SEWER LINE CHEMICAL ROOT TREATMENT);

5. Cleaning, inspection, testing, and sealing of sewer mains to seal joints or circular cracks which are leaking or have the potential to leak (refer to Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING);

6. Cleaning and inspection of sewers (refer to Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING);

7. Rehabilitating service connections including cutting protruding services; television inspecting, pressure testing and grouting to repair and seal cracks and holes which are leaking or have the potential to leak or to seal a reinstated service connection at a liner (refer to Section 02443, SERVICE CONNECTION REHABILITATION).

D. Alternate No. 1 includes protective wrapping piping in air release and force main manholes, replacing piping in air release manholes, replacing blind flanges and corporation stops in air release manholes, and the epoxy lining of air release and force main manholes (refer to Sections 02089, DUCTILE IRON GRAVITY PIPE and 02435, SEWER MANHOLE REHABILITATION).

1.02 RELATED WORK:

A. SECTION 01110 - CONTROL OF WORK AND MATERIALS

PART 2 – PRODUCTS – NOT APPLICABLE

PART 3 - EXECUTION

3.01 SEQUENCE OF WORK:

A. Work in the Fayette Street and Berlin Street areas (Drawing C-1) shall be conducted first in order to coordinate with other work by the Owner. The schedule of work shall reflect this requirement.

B. Root treatment of sewers and manholes shall be conducted first. Any other work in the root treated segments of sewer (manhole to manhole) shall not be performed until a waiting period has passed in accordance with Section 02437, SEWER LINE CHEMICAL ROOT TREATMENT.

B. Cleaning and inspecting shall be performed prior to all other pipeline rehabilitation work in each segment of sewer.

C. Cutting of protruding service connections required in a segment of sewer shall be performed prior to the installation of any lining (manhole to manhole, or short liners), service connection rehabilitation, or joint testing and sealing required in that segment.
D. Lining (manhole to manhole) and short liners required in a segment of sewer shall be completed prior to any television inspecting, pressure testing, grouting of service connections, or manhole rehabilitation required in that segment.

E. Under Alternate No. 1, replacing of the blind flange and corporation stop shall be completed first, followed by the resetting of the cone/flat-top and the frame and cover. Epoxy lining of the manhole shall be completed after the manhole is reset. The stainless-steel fittings shall be installed next, with the wrapping of the ductile iron and cast-iron piping conducted last.

F. The Contractor shall provide notice to the Owner and the Engineer as follows: two weeks’ notice is required for open cut work and manhole-to-manhole lining work on all streets. In these cases, the Contractor will also be required to distribute one week and twenty-four hour prior notices to all residents and business owners in the vicinity of the work.

G. All television inspection work shall be performed during a period of high groundwater.

H. All work may be scheduled at the Contractor’s discretion within the time of contract so long as it adheres to this scope and sequence of work and all plans and specifications. The schedule is also subject to approval by the Engineer.

I. The Contractor shall perform the work near schools/daycares in the project area during non-school days/hours, which may include Saturdays and/or Sundays, holidays, or school vacations with written authorization from the City and approval from the Engineer.

J. Grouting of joints with excessive infiltration flows shall be conducted prior to the lining of the sewer pipe.

END OF SECTION
SECTION 01110

CONTROL OF WORK AND MATERIALS

PART 1 – GENERAL

Not Used.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 HAULING, HANDLING AND STORAGE OF MATERIALS:

A. The Contractor shall, at its own expense, handle and haul all materials furnished by it and shall remove any of its surplus materials at the completion of the work.

B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by it that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.

C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

3.02 EASEMENTS:

A. As indicated on the drawings, the work is located in easements obtained by the Owner. The Contractor has no rights outside of the easements unless they are obtained from the property owner.

B. Contractor shall schedule work so that it will cause minimum inconvenience and nuisance to abutting property owners, over the shortest possible time.

C. Easements shall be kept clean; no rubbish or discarded construction materials shall be allowed to accumulate. Storage of excess construction materials, including soil, ledge, equipment, or machinery on easements will not be allowed.
D. Restoration of fences, shrubs, trees and grass shall be completed promptly following completion of the work in an easement, to minimize disruption and inconvenience to property owners.

E. Unless approved by the Engineer, the use of easements for ease of access to and egress from other areas of the project will not be permitted.

3.03 OPEN EXCAVATIONS:

A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at its own expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress.

B. Bridges provided for access to private property during construction shall be removed when no longer required.

C. The length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.

D. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, then special construction procedures shall be taken, such as limiting the length of trench and prohibiting stocking excavated material in the street.

E. All street excavations shall be completely closed at the end of each work day. Backfilling or use of steel plates of adequate strength to carry traffic shall be used.

3.04 MAINTENANCE OF TRAFFIC:

A. Unless permission to close the street is received in writing from the proper authority, all excavated materials and equipment shall be placed so that vehicular and pedestrian traffic may be safely maintained at all times.

B. Should the Chief of Police deem it necessary, uniformed officers will be assigned to direct traffic. The Contractor shall make all arrangements in obtaining uniformed officers required.

C. The Contractor shall at its own expense, as directed by the Police Traffic Control/Safety Officer, provide and erect acceptable barricades, barrier fences, traffic signs, and all other traffic devices not specifically covered in a bid item, to protect the work from traffic, pedestrians, and animals. The Contractor shall provide sufficient temporary lighting such as lanterns/flashers (electric battery operated) or other approved illuminated traffic signs and devices to afford adequate protection to the traveling public, at no additional cost to the Owner. See Section 01552 CONSTRUCTION ZONE SAFETY PLAN.
D. The Contractor shall furnish all construction signs that are deemed necessary by and in accordance with Part VI of the *Manual on Uniform Traffic Control Devices* as published by the U.S. Department of Transportation. In addition, the Contractor may be required to furnish up to 128 square feet of additional special construction warning signs. Size and exact wording of signs shall be determined by the Engineer during construction.

E. The intent of policing is to ensure public safety by direction of traffic. Police officers are not to serve as watchmen to protect the Contractor's equipment and materials.

F. Nothing contained herein shall be construed as relieving the Contractor of any of its responsibilities for protection of persons and property under the terms of the Contract.

3.05 CARE AND PROTECTION OF PROPERTY:

The Contractor shall be responsible for the preservation of all public and private property, and shall 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, such property shall be promptly restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

3.06 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES:

A. All existing buildings, utilities, pipes, poles, wires fences, curbings, property line markers and other structures which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the contractor. Should such property be damaged, it shall be restored by the Contractor, at no additional cost to the Owner.

B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, drain lines, electrical lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by Contractor.

C. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.

D. All property damaged by the Contractor's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

E. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.
3.07 MAINTENANCE OF FLOW:

A. The Contractor shall at its own cost, provide for the flow of sewers and drains interrupted during the progress of the work, and shall immediately cart away and dispose of all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.

B. All existing drainage facilities including, but not limited to; brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, it shall repair the same within the same day.

C. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by its operations as described in Section 01740, CLEANING UP.

3.08 REJECTED MATERIALS AND DEFECTIVE WORK:

A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or its employees, as determined by the Engineer, occurring previous to the final payment.

3.09 SANITARY REGULATIONS:

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.
3.10 SAFETY AND HEALTH REGULATIONS:

This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (454 CMR 10.0 et. seq.)." The Contractor shall be familiar with the requirements of these regulations.

3.11 SITE INVESTIGATION:

The Contractor acknowledges that it has satisfied itself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings and specifications made a part of this contract. Any failure of the Contractor to acquaint itself with available information will not relieve it from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis of the information made available by the Owner.

3.12 HANGERS, PADS, AND SUPPORTS:

A. Unless otherwise indicated, hangers and supports shall be by the trade providing the supported item.

B. Except where detailed or specified, design of hangers and supports shall be the responsibility of the Contractor. All parts of such hangers or supports shall be designed in accordance with accepted engineering practice, using a factor of safety of at least 2½.

C. When proprietary hangers, etc., are supplied, satisfactory evidence of the strength of such items shall be furnished.

D. Hangers for items hung from steel and concrete shall be centered on the vertical center of gravity of the beam.

E. Locations and sizes of openings, sleeves, concrete pads, steel frames, and other equipment supports are indicated on the drawings for bidding purposes only. Final sizes and locations of such items shall be obtained from the shop drawings.

3.13 SLEEVES, HOLES, HANGERS, INSERTS, ETC.:

A. Except where holes and openings are dimensioned, and hangers, inserts, and supports are fully called for on the architectural and structural drawings (or reference is made thereon to drawings containing such information) to accommodate mechanical or electrical items, they shall be by the mechanical or electrical trade concerned.
B. Sleeves, inserts, anchors, etc., supplied under the mechanical and electrical contracts in sufficient time to so permit, shall be set in concrete, masonry, etc., or fastened to steel deck, etc., by the respective architectural or structural trade. Where not supplied in sufficient time, installation of such items shall be the responsibility of the mechanical or electrical trade involved.

C. Nothing shall be suspended from the steel roof deck and no fastenings made to it, except with the prior permission of the Engineer. Request for permission shall be accompanied by full details of the hanger or fastener, including the weight of the item to be suspended.

D. Nailers and other wood members attached to steel or masonry, for which fasteners are not indicated on the design drawings or in the specification, shall be fastened with the equivalent of ½-inch diameter bolts at 3 feet o.c.

E. Openings for mechanical and electrical items in finished areas of the building shall be closed off with near escutcheon plates or similar closures. These closures shall be by the mechanical or electrical trade involved.

3.14 ROOF PROTECTION:

Where work must be performed over completed roofing, the roofing shall be protected by 2 layers of ½-inch thick plywood, laid with joints in the second layer offset 1/2 sheet width and length from joints in the first layer. No material shall be stored or work performed on areas of roof which are not so protected.

3.15 WEATHER PROTECTION:

In conformance with Sections 44F and 44G of Chapter 149 of the General Laws of Massachusetts, the General Contractor shall install weather protection and shall furnish adequate heat in the area so protected during the months of November through March. Standards for such specifications shall be established by the Director of Building Construction in the Executive Office for Administration and Finance.

3.16 ELECTRIC SERVICE:

A. The Contractor shall make all necessary applications and arrangements and pay for all fees and charges for electrical energy for power and light necessary for the proper completion of this contract during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.

B. There shall be sufficient electric lighting so that all work may be done in a workmanlike manner where there is not sufficient daylight.
3.17 HAZARDOUS WASTE:

Should the Contractor, while performing work under this contract, uncover hazardous materials, as defined in Massachusetts Hazardous Waste Regulations 310 CMR 30.00, he shall immediately notify the Engineer. The Contractor is not, and has no authority to act as, a handler, generator, operator or disposer of hazardous or toxic substances found or identified at the site, and the Owner shall undertake all such functions.
SECTION 01140

SPECIAL PROVISIONS

PART 1 - GENERAL

Not used

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

3.01 WATER FOR CONSTRUCTION PURPOSES:

A. The Contractor may be allowed to use water without charge for construction purposes from a hydrant using a “quick connect” type at the Quincy Public Works yard at 55 Sea Street, Quincy, Massachusetts. The Contractor shall obtain approval from the Owner prior to opening the hydrant. The Contractor shall not open hydrants when temperatures are below 40 degrees Fahrenheit. Waste of water by the Contractor shall be sufficient cause for withdrawing the privilege of unrestricted use.

B. If no water is available, the Contractor shall supply water at no additional cost to the Owner.

C. The Contractor shall submit weekly hydrant meter logs to the Engineer at no additional cost to the Owner. Each log will be formatted to the specifications in Appendix E.

3.02 PIPE LOCATION:

Pipe shall be located substantially as indicated on drawings. The Owner reserves the right, acting through the Engineer, to make such modifications as may be deemed desirable to avoid interference with existing structures or for other reasons.

3.03 DIMENSIONS OF EXISTING STRUCTURES:

Where the dimensions and locations of existing structures are of critical importance in the installation or connections of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment that is dependent on the correctness of such information.

3.04 OCCUPYING PRIVATE PROPERTY:

The Contractor shall not enter upon nor occupy with men, equipment or materials any property outside of the public highways or Owner’s easements, except with the written
consent of the property owner or property owner’s agent.

3.05 EXISTING UTILITY LOCATIONS – CONTRACTOR’S RESPONSIBILITY:

A. The location of existing underground services and utilities shown on the drawings is based on available records. It is not warranted that all existing utilities and services are shown, or that shown locations are correct. The Contractor shall be responsible for having the utility companies locate their respective utilities on the ground prior to excavating.

B. To satisfy the requirements of Massachusetts law, Chapter 82, Section 40, the Contractor shall, at least 72 hours, exclusive of Saturdays, Sundays and holidays, prior to excavation in the proximity of telephone, gas, cable television and electric utilities, notify the utilities concerned by calling “DIG SAFE” at telephone number: 1-888-344-7233 and MWRA Permitting Department, Field Operations at (617) 305-5956.

C. The Contractor shall coordinate all work involving utilities and shall satisfy itself as to the existing conditions of the areas in which it is to perform his work. It shall conduct and arrange its work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

3.06 COORDINATION OF WORK:

The General Contractor shall be responsible for coordinating its own work as well as that of any subcontractors. The Contractor shall coordinate work with the Quincy Police Department and all schools/daycares in the project area. The Contractor shall be responsible for notification of the Engineer when each phase of work is expected to begin and the approximate completion date.

3.07 TIME FOR COMPLETION OF CONTRACT:

The time for completion of this contract is stipulated in the Form of/for General Bid. The Bidder shall base its bid on completing the proposed work by the completion date stipulated in Section 00300, FORM OF GENERAL BID/FORM FOR GENERAL BID.

3.08 COMPLIANCE WITH PERMITS:

A. The Contractor shall perform all work in conformance with requirements of the Permits, which appear in Section 00890 – PERMITS.

3.09 CONNECTIONS TO EXISTING WATER SYSTEMS:

A. The Owner will, upon 24-hour notice from the Contractor, assist the Contractor by locating and opening or closing any and all valves required for draining or admitting water to the various sections of the water main as required to perform the proposed work. No damages shall be claimed by the Contractor for delays in dewatering pipelines nor shall any damages be claimed because of water leaking through closed valves after
dewatering is completed.

B. Connections to the existing distribution system shall be made with the mains under pressure unless the lines can be temporarily taken out of service as approved by the Owner.

C. The Contractor will be required to make test excavations to ascertain that the proposed position of the connections will be clear of joints, fittings, or other obstructions.

D. If any failure occurs in connection to existing mains, service shall be restored in the shortest possible time, the Contractor working around the clock, if necessary. The Contractor shall cooperate with the Owner in notifying the consumers or supplying emergency water. If required by Owner, the Contractor shall make connections to water mains during night hours, on Sunday or at other times of off-peak demand for water.

3.10 CONTRACTOR’S REPRESENTATIVE:

The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

3.11 HOURS OF CONSTRUCTION ACTIVITY:

A. Construction activity shall be restricted to a normal 8-hour day, 5-day week between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, except for work conducted in the vicinity of schools and CIPP lining. Continuous work for CIPP lining may extend beyond work hours; however no new work shall be started after 4:00 pm unless authorized by the Owner and approved by the Engineer in advance.

B. No construction work shall be allowed on Saturdays, Sundays or Holidays without written authorization from the Owner and approval of the Engineer. The compensation of detail officers and the Engineer for work approved outside of the limitations aforementioned shall be the responsibility of the Contractor and shall be at no additional cost to the Owner.

C. The Contractor shall coordinate work with the Quincy Police Department and all schools/daycares in the project area. The work shall be conducted during non-school days/hours, which may include Saturdays and/or Sundays with written authorization from the Owner and approval from the Engineer.

D. The Owner will provide personnel for assistance in locating structures and operating valves at no cost to the Contractor during the Owner’s normal working hours (Monday through Friday 7:00 a.m. to 3:00 p.m.). When this assistance is required by the Contractor outside of the Owner’s normal working hours the cost will be incurred by the Contractor at the prevailing overtime rate of pay for the personnel providing the assistance. The Owner will bill the Contractor directly.
3.12 CONSTRUCTION CREWS:

The Contractor shall not increase the number of construction crews assigned to the work without providing one-week advance notice to the Engineer.

3.13 OTHER CONTRACTS:

A. The Contractor should be aware that work under this contract is part of a larger construction program. Other contracts in progress and proposed under this program are dependent upon completion of work under this contract.

B. Successful completion of the entire construction program is dependent upon the cooperation of all parties involved. Interference and delay resulting from a lack of cooperation by all parties shall not be a basis for claims against the Owner.

3.14 MASSACHUSETTS DATA SECURITY REGULATIONS:

The Contractor is required to comply with data security regulations contained in 201 CMR 17.00 that have been established to safeguard personal information of Massachusetts residents contained in paper or electronic records. The Contractor shall not submit to the Engineer or Owner documents in paper or electronic form that contain personal information (person’s name combined with one or more of the following – Social Security Number, driver’s license number or state-issued identification card number, financial institution account number, or credit or debit card number). Any document submitted to the Engineer that violates this provision shall be returned to the Contractor and the Contractor shall remove personal information from the document prior to resubmitting it to the Engineer. The Contractor shall require each Subcontractor to also comply with the MA data security regulations insofar as they involve submittal of personal information to the Engineer and Owner.

3.15 WINTER WORK:

The Owner will allow the Contractor to work within the public ways on this Project during the winter months. The Owner has obtained a road-opening permit for the State Highway for winter work. All conditions of the road-opening permit apply to any work performed in the State Highway irrespective of the requirements presented herein. Adherence to the Maintenance During Construction provisions for the State’s Standard Specifications for Highways and Bridges is required at all times.

The Contractor will be required to backfill all excavations at the end of each work day, or place Jersey barriers around open excavations.

The Owner has agreed to provide snow removal services on all public ways affected by this Project. The Owner will not remove snow from the Contractor’s work area that the public will not be using for either driving or pedestrian activity.
The Contractor will provide snow removal services on any public way affected by his work that has been authorized by the Owner to be closed to through traffic. Snow will be plowed in accordance with the Owner’s normal plowing schedule for the closed public ways.

In no event will the Owner remove snow on any private way affected by the Contractor’s work on this Project. The Contractor may coordinate snow removal activities with whoever provides these services for the owners of the private way(s).

END OF SECTION

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SECTION 01250

PRICE ADJUSTMENTS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Price adjustments, as required by MGL Chapter 30, Section 38A, shall be implemented for this Project. Price adjustments, as enumerated in Part 3 of this specification, shall be made for the following items:

Water and Sewer Projects

- Diesel fuel and gasoline
- Liquid asphalt
- Portland cement contained in cast-in-place concrete

Road and Bridge Projects

- Diesel fuel and gasoline
- Asphalt
- Concrete
- Steel

B. Price adjustments shall be made in accordance with the methodology adopted by the Massachusetts Department of Transportation in the following SPECIAL PROVISIONS documents, which are attached, but modified as contained herein:


C. Base and Period Prices used to calculate price adjustments shall be as published by the Massachusetts Department of Transportation as presented in Documents 00811 through 00814.
1.02 CONTRACTOR CREDIT TO OWNER SHOULD PRICES DECREASE:

A. Price adjustments will only be made if the variance between the base price and the period price is Five Percent (5%) or more.

B. In the instance where the period price is below the base price by 5% or more, then the Contractor shall credit the Owner the adjustment.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

3.01 DIESEL FUEL AND GASOLINE:

A. Price adjustments shall be determined based on documented quantities of diesel fuel and gasoline usage for site dedicated equipment. This methodology shall replace the price adjustment basis on fuel usage factors, as described within the Massachusetts Department of Transportation Document 00812.

B. All site dedicated equipment shall be approved by the Engineer for the calculation of any qualifying price adjustment. Prior to the start of work the Contractor shall submit to the Engineer a list of all dedicated equipment for the project. The Contractor shall forward updated submittals, as necessary, throughout the duration of the contract. Only that equipment included within the current approved list shall be considered eligible for calculating a price adjustment under this Section 01250.

C. The Contractor shall submit fuel delivery slips to the Engineer as a basis for calculating total diesel fuel and gasoline usage for site dedicated equipment. At a minimum, the delivery slips will include the name of the fuel delivery company, the date and location of fueling, the type of fuel, description of the fueled equipment and the quantity for each type of fuel delivered in gallons. Any slips not providing the minimum information shall not be included in the calculation of total diesel fuel and gasoline usage for price adjustment purposes.

3.02 LIQUID ASPHALT:

A. The “Period Price Method” shall be used to determine price adjustments. For projects utilizing reclaimed asphalt include Reclaimed Asphalt Pavement (RAP) Factor (0.0 to <1.0) in calculation of the total price adjustment. Otherwise, use RAP Factor = 1.0.

B. For bid items involving asphalt paving that are measured and paid on a linear foot basis, or some other basis besides tonnage, the number of tons shall be determined by the Engineer using compacted measure of thickness within the established payment limits.
C. Asphalt paving not separately measured for payment but rather included as an incidental component of work under a related bid item shall not be considered for price adjustment.

3.03 STRUCTURAL AND REINFORCING STEEL:

A. Steel price adjustments shall not be made for water and sewer projects.

B. Period prices for steel are subject to change up to four (4) months after the date of original publication. Therefore, no price adjustment will be made until the index for the period is finalized.

3.04 PORTLAND CEMENT AND CONCRETE:

A. The price adjustment applies to all projects contained herein in Section 1.01A.

B. Field Concrete used in water and sewer projects, typically used for thrust blocks and concrete encasement, shall not be considered for price adjustment. Cast-in-place concrete used on these projects will be included in the price adjustment determination.

END OF SECTION
ATTACHMENT FOR SECTION 01250 PRICE ADJUSTMENTS

MASSDOT DOCUMENTS 00811-00814
This provision applies to all projects using greater than 100 tons (91 megagrams) of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

Price Adjustments will be based on the variance in price, for the liquid asphalt component only, between the Base Price and the Period Price. They shall not include transportation or other charges. Price Adjustments will occur on a monthly basis.

**Base Price**
The Base Price of liquid asphalt on a project as listed in the Notice to Contractors section of the bid documents is a fixed price determined by the Department at the time of the bid using the same method as the determination of the Period Price detailed below. The Base Price shall be used in all bids.

**Period Price**
The Period Price is the price of liquid asphalt for each monthly period as determined by the Department using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poten & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. The Department will post this Period Price on its website at http://www.mhd.state.ma.us/ within two (2) business days following its receipt of the relevant issue of the "Asphalt Weekly Monitor". Poten and Partners has granted the Department the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor. This method of period price determination was formerly called the New Asphalt Period Price Method. Separate website postings using both the New Asphalt Period Price Method and the Old Asphalt Period Price Method were discontinued after June 2013.

**Price Adjustment Determination, Calculation and Payment**
The Contract Price of the HMA mixture will be paid under the respective item in the Contract. Price Adjustments, as herein provided, either upwards or downwards, will be made after the work has been performed using the monthly period price for the month during which the work was performed.

Price Adjustments will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M3.11.03.

Price Adjustments will be separate payment items. The pay item numbers are 999.401 for a positive price adjustment (a payment) and 999.402 for a negative price adjustment (a deduction). Price Adjustments will be calculated using the following equation:

Price Adjustment = Tons of HMA Placed X Liquid Asphalt Content % X RAP Factor X (Period Price - Base Price)

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

****** END OF DOCUMENT ******
This monthly fuel price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Commonwealth, depending on an increase or decrease in the average price of diesel fuel or gasoline.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department’s web site (www.mhd.state.ma.us) for the month in which the contract was bid, which includes State Tax.

The Period Price will be the average of prices charged to the State, including State Tax for the bulk purchases made during each month.

This adjustment will be effected only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No adjustment will be paid for work done beyond the extended completion date of any contract.

Any adjustment (increase or decrease) to estimated quantities made to each item at the time of final payment will have the fuel price adjustment figured at the average period price for the entire term of the project for the difference of quantity.

The fuel price adjustment will apply only to the following items of work at the fuel factors shown:

<table>
<thead>
<tr>
<th>ITEMS COVERED</th>
<th>FUEL FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diesel</td>
</tr>
<tr>
<td>Excavation: and Borrow Work:</td>
<td>0.29</td>
</tr>
<tr>
<td>Items 120, 120.1, 121, 123, 124, 125, 127, 129.3, 140, 140.1, 141, 142, 143, 144., 150, 150.1, 151 and 151.1 (Both Factors used)</td>
<td>Gallons / CY.</td>
</tr>
<tr>
<td>Surfacing Work:</td>
<td>2.90</td>
</tr>
<tr>
<td>All Items containing Hot Mix Asphalt</td>
<td>Gallons / Ton</td>
</tr>
</tbody>
</table>

********** END OF DOCUMENT **********
MassDOT Highway Division

DOCUMENT 00813

SPECIAL PROVISIONS

PRICE ADJUSTMENTS FOR STRUCTURAL STEEL AND REINFORCING STEEL

FOR CONTRACTS BID ON OR AFTER APRIL 5, 2011

ENGLISH UNITS

May 11, 2011

This provision applies to projects containing a price adjustment for structural steel and reinforcing steel as stipulated in the Notice to Contractors section of the Bid Documents. It applies to all structural steel as defined below and all reinforcing steel on the project. Compliance with this provision is mandatory, i.e., there are no “opt-in” or “opt-out” clauses. Price adjustments will be handled as described below and shall only apply to unfabricated structural steel material, consisting of rolled shapes, plate steel, sheet piling, pipe piles, steel castings and steel forgings, and unfabricated reinforcing steel bars.

Price adjustments will be variances between Base Prices and Period Prices. Base Prices and Period Prices are defined below.

Price adjustments will only be made if the variances between Base Prices and Period Prices are 5% or more. A variance can result in the Period Price being either higher or lower than the Base Price. Once the 5% threshold has been achieved, the adjustment will apply to the full variance between the Base Price and the Period Price.

Price adjustments will be calculated by multiplying the number of pounds of unfabricated structural steel material or unfabricated reinforcing steel bars subject to a price adjustment by the index factor calculated as shown below under Example of a Period Price Calculation.

Price adjustments will not include the costs of shop drawing preparation, handling, fabrication, coatings, transportation, storage, installation, profit, overhead, fuel costs, fuel surcharges, or other such charges not related to the cost of the unfabricated structural steel and unfabricated reinforcing steel.

The weight of steel subject to a price adjustment shall not exceed the final shipping weight of the fabricated part by more than 10%.
Base Prices and Period Prices are defined as follows:

*Base Prices* of unfabricated structural steel and unfabricated reinforcing steel on a project are fixed prices determined by the Department and found in the Notice to Contractors section of the Bid Documents.

The Base Price Date is the month and year in which MassDOT opened bids for the project. This date is used to select the Base Price Index.

*Period Prices* of unfabricated structural steel and unfabricated reinforcing steel on a project are variable prices calculated based on the purchase date of the steel (Period Price Date) using an index of steel prices to adjust the Base Price.

The Period Price Date is the date the steel was delivered to the fabricator as evidenced by an official bill of lading submitted to the Department containing a description of the shipped materials, weights of the shipped materials and the date of shipment. This date is used to select the Period Price Index.

The index used for the calculation of Period Prices is the U.S. Bureau of Labor Statistics (BLS) Producer Price Index (PPI) Series ID WPU101702 (Not Seasonally Adjusted, Group: Metals and Metal Products, Item: Semi-finished Steel Mill Products.) As this index is subject to revision for a period of up to four (4) months after its original publication, no price adjustments will be made until the index for the period is finalized, i.e., the index is no longer suffixed with a "(P)".

Period Prices are determined as follows:

Period Price = Base Price X Index Factor
Index Factor = Period Price Index / Base Price Index

Example of a Period Price Calculation:

Calculate the Period Price for December 2009 using a Base Price from March 2009 of $0.82/Pound for 1,000 Pounds of ASTM A709 (AASHTO M270) Grade A36 Structural Steel Plate.

The Period Price Date is December 2009. From the PPI website*, the Period Price Index = 218.0.

The Base Price Date is March 2009. From the PPI website*, the Base Price Index = 229.4.

Index Factor = Period Price Index / Base Price Index = 218.0 / 229.4 = 0.950
Period Price = Base Price X Index Factor = $0.82/Pound X 0.950 = $0.78/Pound

Since $0.82 - $0.78 = $0.04 is less than 5% of $0.82, no price adjustment is required.
If the $0.04 difference shown above was greater than 5% of the Base Price, then the price adjustment would be 1,000 Pounds $0.04/Pound = $40.00. Since the Period Price of $0.78/Pound is less than the Base Price of $0.82/Pound, indicating a drop in the price of steel between the bid and the delivery of material, a credit of $40.00 would be owed to MassDOT. When the Period Price is higher than the Base Price, the price adjustment is owed to the Contractor.

* To access the PPI website and obtain a Base Price Index or a Period Price Index, go to http://www.bls.gov/PPI/

END OF EXAMPLE.

The Contractor will be paid for unfabricated structural steel and unfabricated reinforcing steel under the respective contract pay items for all components constructed of either structural steel or reinforced Portland cement concrete under their respective Contract Pay Items.

Price adjustments, as herein provided for, will be paid separately as follows:

**Structural Steel**
Pay Item Number 999.449 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.457 for negative (-) pay adjustments (credits to MassDOT Highway Division)

**Reinforcing Steel**
Pay Item Number 999.466 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.467 for negative (-) pay adjustments (credits to MassDOT Highway Division)

No price adjustment will be made for price changes after the Contract Completion Date, unless the MassDOT Highway Division has approved an extension of Contract Time for the Contract.

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END OF DOCUMENT
This provision applies to all projects using greater than 100 Cubic Yards (76 Cubic Meters) of Portland cement concrete containing Portland cement as stipulated in the Notice to Contractors section of the Bid Documents. This Price Adjustment will occur on a monthly basis.

The Price Adjustment will be based on the variance in price for the Portland cement component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.

The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the *Construction Economics* section of *ENR Engineering News-Record* magazine or at the ENR website http://www.enr.com under *Construction Economics*. The Period Price will be posted on the MassHighway website the Wednesday immediately following the publishing of the monthly price in ENR, which is normally the first week of the month.

The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01. No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

*END OF DOCUMENT*
PART 1 - DESCRIPTION

1.01 GENERAL:

A. The following subsections describe the measurement of and payment for the work to be done under the items listed in Section 00300 FORM OF GENERAL BID.

B. The work related to the Base Bid includes the cleaning, inspection, testing and sealing of sewers under Section 1.02; cementitious lining of manholes under Sections 1.03.A and 1.03.B; chemical root treatment of sewers under Section 1.04; structural short liner under Section 1.05; manhole to manhole structural lining under Section 1.06; and service connection rehabilitation under Section 1.07.

C. The work related to Alternate No. 1 includes the epoxy lining of air release and force main manholes under section 1.03.C; protective wrapping of force main piping under section 1.03.D; and the replacement of air release piping and blind flanges in air release manholes under sections 1.03.E and 1.03.F.

D. All work performed as described in these contract documents will be paid for under one or more of the items listed in the FORM OF GENERAL BID. All other activities required in connection with performance of the work, including all work required under Division 1, GENERAL REQUIREMENTS, whether described in the contract documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the form of general bid, but will be considered incidental to performance of the overall project.

E. Each unit or lump-sum price stated in the FORM OF GENERAL BID shall constitute full compensation as herein specified for each item of work completed in accordance with the drawings and specifications.

F. The payment items listed herein and in the FORM OF GENERAL BID are intended to provide full payment for the work shown on the drawings and specified herein. Any work called for or implied in the documents but not listed as a payment item shall be considered incidental to the overall project.

G. Unless otherwise noted, each item shall be furnished and installed in accordance with the technical section whether a specific applicable payment item exists or not.
1.02 CLEANING, INSPECTION, TESTING AND SEALING OF SEWER SYSTEMS:

A. Cleaning and Inspection of Sewers:

1. The work under this item shall be measured at the unit price bid per linear foot light cleaned and inspected.

2. Cleaning shall consist of as many as three (3) full passes of a hydraulic flusher. No settled debris shall be allowed to remain in the sewer, including: debris built up in drop connections, washed into service connections, or deposited on manhole benches and inverts. No debris shall be allowed to flow downstream of the cleaning manhole.

3. Measurement shall be based on the actual length of sewer cleaned and inspected from center line of manhole to center line of manhole. Sewers shall be cleaned and inspected as specified in Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING. Verification of adequate cleaning shall be made by television inspection.

4. The television inspection work, external hard drives, by-pass pumping, plugging or blocking of sewer flow, and the storage, testing and disposal of any material retrieved from sewer cleaning shall be considered incidental to the work and shall not be considered for payment. All external hard drives shall be given to the Owner upon completion of the project.

5. The work under this section shall be paid at the contract unit price under Items 1a, 1b, and 1c.

B. Testing of Joints and Circular Cracks:

1. The work under this item shall be measured at the unit price bid per joint or circular crack tested.

2. Measurement shall be based on the actual number of joints and circular cracks tested as determined by the Engineer. Joints and circular cracks shall be tested as specified in Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract unit price under Items 1d, 1e, and 1f.
C. Sealing Joints and Circular Cracks:

1. The work under this item shall be measured at the unit price bid per joint or circular crack sealed.

2. Measurement, including all materials, shall be based on the actual number of joints and circular cracks sealed as determined by the Engineer. Joints and circular cracks shall be sealed as specified in Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract unit price under Items 1g, 1h, and 1i.

D. Withholding:

Ten percent of the payment for the subdivisions of the item “Sewer Cleaning, Inspection, Testing and Sealing” shall be withheld until the pipeline rehabilitations have satisfactorily completed and passed field testing/inspection(s) as specified in Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

1.03 SEWER MANHOLE REHABILITATION:

A. Exterior Sealing and Interior Cementitious Lining of Manholes:

1. The work of this item shall be measured at the unit bid price per vertical foot of manhole lined, from rim to bench.

2. The contract unit price per vertical foot to be paid shall constitute full compensation for supplying all material, labor, tools, and equipment required to seal the manhole as specified in Section 02435, SEWER MANHOLE REHABILITATION. Manhole cementitious lining includes invert sealing, exterior chemical grouting, and interior lining.

3. Cleaning the manhole and plugging or grouting of active leaks in the manhole structure prior to lining shall be considered incidental to the work and will not be measured separately for payment.

4. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

5. The work under this section shall be paid at the contract unit price under Item 2a.
B. Rebuild Sewer Manhole Bench and Invert:

1. The work of this item shall be measured at the unit bid price per re-built sewer manhole bench and invert.

2. The contract unit price per re-built sewer manhole bench and invert to be paid shall constitute full compensation for supplying all material, labor, tools, and equipment required to rebuild the manhole bench and invert as specified in Section 02435, SEWER MANHOLE REHABILITATION.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract unit price under Item 2b.

C. Epoxy Lining of Air Release and Force Main Manholes

1. The work of this item shall be measured at the unit bid price per lined sewer manhole.

2. The contract unit price per lined sewer manhole to be paid shall constitute full compensation for supplying all material, labor, tools, and equipment required to seal the manhole as specified in Section 02435, SEWER MANHOLE REHABILITATION.

3. Cleaning the manhole and plugging or grouting of active leaks in the manhole structure prior to lining shall be considered incidental to the work and will not be measured separately for payment.

4. Handling existing sewer flows shall be considered incidental to the work and shall not be measured separately for payment.

5. The work under this section shall be paid at the contract unit price under Item 9a.

D. Protective Wrapping of Piping in Air Release and Force Main Manholes

1. The work of this item shall be measured at the unit bid price per sewer manhole.

2. The contract unit price per lined sewer manhole to be paid shall constitute full compensation for supplying all material, labor, tools, and equipment required to seal the manhole as specified in Section 02089, DUCTILE IRON GRAVITY AND FORCE MAIN PIPE AND FITTINGS FOR SEWERS.
3. Handling existing sewer flows shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract unit price under Item 9b.

E. Replacing Piping in Air Release Manholes

1. The work of this item shall be measured as a lump sum price.

2. The lump sum price for the replacement piping in the air release manholes shall constitute full compensation for supplying all labor, materials, tools, and equipment required to replace the piping as specified in Section 02089, DUCTILE IRON GRAVITY AND FORCE MAIN PIPE AND FITTINGS FOR SEWERS.

3. Handling existing sewer flows shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract lump sum price under Item 9c.

F. Replacing Blind Flanges in Air Release Manholes

1. The work of this item shall be measured as a lump sum price.

2. The lump sum price for the replacement blind flanges along with nuts and bolts in the air release manholes shall constitute full compensation for supplying all labor, materials, tools, and equipment required to replace the blind flanges as specified in Section 02089, DUCTILE IRON GRAVITY AND FORCE MAIN PIPE AND FITTINGS FOR SEWERS. Lump sum price shall also include all measures necessary for handling existing flows within the force main and continuously collected at the Quincy Point Pump Station.

3. Excavation, rebuilding manhole flat-tops and/or concentric cones, removing of frames and covers, earthwork, paving, and handling existing flows shall be considered incidental to the work and shall not be measured separately for payment.

4. The work under this section shall be paid at the contract lump sum price under Item 9d.

G. Withholding:

Ten percent of the payment for the subdivisions of the item “Sewer Manhole Rehabilitation” shall be withheld until the manhole rehabilitations have satisfactorily
completed and passed field testing/inspection(s) as specified in Section 02435, SEWER MANHOLE REHABILITATION and Section 02089, DUCTILE IRON GRAVITY AND FORCE MAIN PIPE AND FITTINGS FOR SEWERS.

1.04 CHEMICAL ROOT TREATMENT:

A. Sewer Line Chemical Root Treatment:

1. Chemical root treatment shall be measured at the unit price bid per linear foot of sewer treated.

2. Measurement shall be based on the actual length of treated sewer from center line of manhole to center line of manhole. Sewers shall be chemically treated for root control as specified in Section 02437, SEWER LINE AND MANHOLE CHEMICAL ROOT TREATMENT.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. Capture and disposal of root control foam/discharge shall be considered incidental to the work and shall not be measured separately for payment.

5. The work under this section shall be paid at the contract unit price under Items 3a through 3c.

1.05 CURED-IN-PLACE STRUCTURAL SHORT LINER:

A. General:

1. The work of this item shall be measured at the unit price bid per linear foot of short liner installed.

2. Measurement, including all material, labor, tools and equipment shall be based on the actual length of installed short liners in sewer lines as determined by the Engineer. Short liners shall be installed as specified in Section 02429, CURED-IN-PLACE SHORT LINER.

3. Grouting or other rehabilitation to remove any active infiltration within the pipeline which may prohibit installation of the CIPP shall be considered incidental to the work and shall not be measured separately for payment.

4. Reinstating service connections shall be considered incidental to the work and shall not be measured separately for payment.

5. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

02/07/2014
6. Television inspection of sewer lines with short liners shall be considered incidental to the work and shall not be measured separately for payment.
7. The work shall be paid for at the contract unit price under Item 4a through 4b.

B. Grouting Reinstated Service Connections:

1. Grouting shall be considered incidental and shall not be measured separately for payment.
2. All material, labor, tools, and equipment required to grout reinstated service connections as specified in Section 02443, SERVICE CONNECTION REHABILITATION shall be considered incidental and shall not be measured separately for payment.
3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.
4. Television inspection and pressure testing at any time during the grouting procedure shall be considered incidental to the work and shall not be measured separately for payment.

C. Withholding:

Ten percent of the payment for the subdivisions of the item “Cured-in-Place Short Liner” shall be withheld until the pipeline rehabilitation’s have satisfactorily completed and passed field testing/inspection(s) as specified in Section 02429, CURED-IN-PLACE SHORT LINER.

1.06 STRUCTURAL CURED-IN-PLACE PIPE:

A. General:

1. The work of this item shall be measured at the unit price bid per linear foot of lined pipe.
2. Measurement, including all material, labor, tools and equipment shall be based on the actual length of pipes lined as determined by the Engineer. Pipes shall be lined as specified in Section 02428, CURED-IN-PLACE PIPE.
3. Grouting or other rehabilitation to remove any active infiltration within the pipeline which may prohibit installation of the CIPP shall be considered incidental to the work and shall not be measured separately for payment.
4. Reinstating service connections shall be considered incidental to the work and shall not be measured separately for payment.
5. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

6. Television inspection of relined sewer pipes shall be considered incidental to the work and shall not be measured separately for payment.

7. Capture and disposal of cure water shall be considered incidental to the work and shall not be measured separately for payment.

8. Grouting of joints with excessive infiltration flows shall be considered incidental to the work and shall not be measured separately for payment.

9. The work shall be paid for at the contract unit price under Items 5a through 5f.

B. Grouting Reinstated Service Connections:

1. Grouting shall be considered incidental and shall not be measured separately for payment.

2. All material, labor, tools, and equipment required to grout reinstated service connections as specified in Section 02443, SERVICE CONNECTION REHABILITATION shall be considered incidental and shall not be measured separately for payment.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. Television inspection and pressure testing at any time during the grouting procedure shall be considered incidental to the work and shall not be measured separately for payment.

C. Withholding:

Ten percent of the payment for the subdivisions of the item “Cured-in-Place Pipe” shall be withheld until the pipeline rehabilitations have satisfactorily completed and passed field testing/inspection(s) as specified in Section 02428, CURED-IN-PLACE PIPE.

1.07 SERVICE CONNECTION REHABILITATION:

A. Television Inspecting and Testing Service Connection:

1. The work of this item shall be measured per service connection television inspected and pressure tested.

2. The contract unit price per service to be paid shall constitute full compensation.
for supplying all material, labor, tools, and equipment required to television inspect and pressure test the service connection as specified in Section 02443, SERVICE CONNECTION REHABILITATION.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. The work shall be paid for at the contract unit price under Item 6a.

B. Grouting Service Connections:

1. The work of this item shall be measured per service connection grouted.

2. The contract unit price per service shall constitute full compensation for supplying all material, labor, tools, and equipment required to grout the service connection as specified in Section 02443, SERVICE CONNECTION REHABILITATION.

3. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

4. The work shall be paid for at the contract unit price under Item 6b.

C. Cutting Protruding Service connections:

1. The work of this item shall be measured per protruding service connection cut.

2. The contract unit price per service connection to be paid shall constitute full compensation for supplying all material, labor, tools, and equipment required to cut the protruding service connection as specified in Section 02443, SERVICE CONNECTION REHABILITATION.

4. Bypass pumping and plugging or blocking of sewer flow shall be considered incidental to the work and shall not be measured separately for payment.

5. Television inspection and grouting of cut service connections shall be considered incidental to the work and shall not be measured separately for payment.

5. The work shall be paid for at the contract unit price under Items 6c through 6d.

D. Withholding:

Ten percent of the payment for the subdivisions of the item “Service Connection Rehabilitation” shall be withheld until the pipeline rehabilitations have satisfactorily completed and passed field testing/inspection(s) as specified in Section 02443,
SERVICE CONNECTION REHABILITATION.

1.08 MOBILIZATION:

A. The lump sum for this item under the Base Bid shall constitute full compensation to the Contractor for the general mobilization necessary to make the contract operational, exclusive of the cost of materials. The total for mobilization for the Base Bid shall not exceed 5 percent of the total of Items 1 through 6. The mobilization for Base Bid work shall be paid at the contract unit price under Item 7a.

B. The lump sum for this item under Alternate No. 1 shall constitute full compensation to the Contractor for the general mobilization necessary to make the contract operational, exclusive of the cost of materials. The total for mobilization for Alternate No. 1 shall not exceed 5 percent of Item 9. The Alternate No. 1 work shall be paid at the contract unit price under Item 10a.

1.09 TRAFFIC DETAIL OFFICERS:

A. The services of traffic detail officers for the Base Bid shall be measured per hour worked.

B. The services of traffic detail officers for the Base Bid shall be paid at the contract unit prices under the subdivisions of the item “Traffic Detail Officers for Traffic Control.” The unit prices under this item include administration charges required by the police.

C. The set prices for the Base Bid in Section 00300 FORM OF GENERAL BID for traffic detail Officers are based on the prevailing hourly wage rates. Payment will be made based on invoices submitted by the traffic authority to the Contractor. The Contractor shall forward copies of these invoices to the Engineer and include the cost in his Application for Payment. Actual payment to the traffic authority shall be made by the Contractor and the Contractor shall be reimbursed by the Owner through the payment estimate. If police wages change during the course of the Contract, the unit prices under this item will be changed accordingly.

D. Contractor shall pay for officer(s) at the prevailing rate established by the local police department should officers not be needed and the Contractor fails to cancel the officers as noted in Section 01553, TRAFFIC DETAIL OFFICERS FOR TRAFFIC CONTROL. Wages paid for failure to cancel officers, or for hours where officers are on-site at the appointed time but the Contractor is not, are not reimbursable. The work under this section shall be paid at the contract unit price under Item 8a through 8b.

E. The services of traffic detail officers for Alternative No. 1 shall not be separately measured for payment, but shall be paid directly by the Owner.
1.10 SEWER MAINLINE AND LATERAL EQUIPMENT TESTING:

A. The work of this section shall not be separately measured for payment, but shall be considered incidental to the project.

1.11 HANDLING EXISTING FLOWS:

A. Handling existing sewage flows for the Alternate No. 1 work in accordance with the specifications, including all measures necessary for handling existing flows within the force main and continuously collected at the Quincy Point Pump Station as required shall not be measured separately for payment, but shall be considered incidental to the project. Contractor shall coordinate operation of Quincy Point Pump Station with Owner regarding the existing flows at the Quincy Point Pump Station prior to the Alternate No. 1 work.

B. Bypass pumping systems for the Base Bid work shall be capable of bypassing the flow around the work area and of releasing any amount of flow up to full available flow into the work area as necessary for satisfactory performance of work. The contractor shall be responsible for bypass pumping of any amount of sewage flow where bypass pumping is required. Bypass pumping shall not be separately measured for payment, but shall be considered incidental to the project.

1.12 SURFACE RESTORATION:

A. The work for surface restoration shall include loaming and seeding and all incidentals thereto for all disturbed areas. This work shall not be separately measured for payment, but shall be considered incidental to the project.

B. Any existing fences which are required to be removed and reset shall not be separately measured for payment, but shall be considered incidental to the project.

1.13 ENVIRONMENTAL PROTECTION:

The work of this section shall not be separately measured for payment, but shall be considered incidental to the project.

1.14 SIGNAGE:

The work of this section shall not be separately measured for payment, but shall be considered incidental to the project.

1.15 LOAMING AND SEEDING:

The work of this section shall not be separately measured for payment, but shall be considered incidental to the project.
1.16 TELEVISION INSPECTION VIDEO FILES:

Television inspection video files provided to the Owner shall not be separately measured for payment but shall be considered incidental to the project.

1.17 WARRANTY INSPECTION:

All warranty inspections and related work shall not be separately measured for payment but shall be considered incidental to the project.

1.18 PRICE ADJUSTMENTS MANDATORY BY MGL CHAPTER 30, SECTION 38A:

A. Price adjustments for certain payment items shall be as described in Specification Section 01250, PRICE ADJUSTMENTS. Payments shall be made at the unit price included in Specification Section 00300 or if no such items are contained in Specification Section 00300, by change order.

END OF SECTION
PART 1 - GENERAL

1.01 DESCRIPTION:

A. This Section specifies requirements for project meetings including but not limited to Pre-Construction Conference and Progress Meetings.

B. It shall be the responsibility of the Contractor to coordinate work between all subcontractors, sections, and trades required for the proper completion of the Work.

1.02 PRE-CONSTRUCTION CONFERENCE:

A. After the bids have been opened but prior to the start of the construction there will be a pre-construction conference to discuss the phasing and scheduling of the Project. The specific time and place of the conference shall be arranged by the Engineer after the Contract has been awarded.

B. This pre-construction conference is intended to establish lines of communication between the parties involved, review responsibilities and personnel assignments, establish project schedules, discuss proposed performance methods, and coordinate Work to be performed by subcontractors.

C. Authorized representatives of the Owner, Engineer and their consultants, the Contractor, its Superintendent and Site Foreman, and all others invited by the Contractor, shall attend the pre-construction conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

D. Discuss items of significance at the pre-construction conference that could affect progress including at least the following:

   1. Tentative construction schedule
   2. Critical Work sequencing
   3. Designation of responsible personnel
   4. Procedures for processing field decisions and Change Orders
   5. Procedures for processing Applications for Payment
6. Review of Davis Bacon and other federal requirements
7. Distribution of Contract Documents
8. Submittal of Shop Drawings, Product Data and Samples
9. Preparation of record documents
10. Use of the premises
11. Office, work and storage, and laydown areas
12. Equipment deliveries
13. Construction safety procedures
14. Environmental health and safety procedures
15. First aid
16. Security
17. Housekeeping
18. Working hours
19. Traffic Control
20. Emergency Vehicle Access to and around work site
21. Environmental protection measures for construction site

1.03 PROGRESS MEETINGS:

A. During the course of the Project, the Contractor shall attend biweekly progress meetings as scheduled by the Owner. The Owner, based on work progress and activities, may adjust the progress meetings to biweekly or other. The attendance of subcontractors may be required during the progress of the Work. The Contractor's delegate to the meeting shall be prepared and authorized to discuss the following items:

2. Proposed Work activities for forthcoming period.
3. Resources committed to Contract.
4. Coordination of Work with others.
5. Status of procurement of equipment and materials.
7. Outstanding actions, decisions, or approvals that affect Work activities.
8. Site access and/or security issues
9. Hazards and risks
10. Housekeeping
11. Quality issues
12. Potential Claims
13. Change Orders
14. Costs, budget, and payment requests
B. The Contractor shall revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized and the revised schedule shall be submitted to the Engineer and Owner.

PART 2 - PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION
SECTION 01330

SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. The Contractor shall provide the Engineer with submittals as required by the contract documents.

1.02 RELATED WORK:

A. Divisions 1 – 2 of these specifications that require submittals.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 GENERAL:

A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.

B. The Contractor shall submit the shop and working drawing submittals either electronically or hard copy.

3.02 ELECTRONIC SUBMITTALS:

A. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer by email (davida@wseinc.com) or on Compact Disc (mail to Weston & Sampson Engineers, attention: CSD), one electronic copy in Portable Document Format (PDF) of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

B. Each electronic copy of the shop or working drawing shall be accompanied by the Engineer’s standard shop drawing transmittal form, included as Exhibit 1 of this section (use only for electronic submittals), on which is a list of the drawings, descriptions and numbers and the names of the Owner, Project, Contractor and building, equipment or structure.

C. The Contractor shall receive a shop drawing memorandum with the Engineer’s approval or comments via email.
3.03 HARD COPY SUBMITTALS:

A. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer, by mail (to Weston & Sampson Engineers, attention: CSD), six (6) copies each of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

B. Each shipment of drawings shall be accompanied by the Engineer’s (if applicable) standard shop drawing transmittal form on which is a list of the drawings, descriptions and numbers and the names of the Owner, Project, Contractor and building, equipment or structure.

3.04 SHOP AND WORKING DRAWINGS:

A. Shop and working drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish of shop coat, grease fittings, etc., depending on the subject of the drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.

B. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. All shop and working drawings shall be prepared on standard size, 24-inch by 36-inch sheets, except those, which are made by changing existing standard shop or working drawings. All drawings shall be clearly marked with the names of the Owner, Project, Contractor and building, equipment or structure to which the drawing applies, and shall be suitably numbered. Each shipment of drawings shall be accompanied by the Engineer’s (if applicable) standard shop drawing transmittal form on which is a list of the drawings, descriptions and numbers and the names mentioned above.

C. Only drawings that have been prepared, checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Contract Documents in all respects. Shop drawings shall be reviewed and marked with the date, checker's name and indication of the Contractor's approval, and only then shall be submitted to the Engineer. Shop drawings unsatisfactory to the Contractor shall be returned directly to their source for correction, without submittal to the Engineer. Shop drawings submitted to the Engineer without the Contractor's approval stamp and signature will be rejected. Any deviation from the Contract Documents indicated on the shop drawings must be identified on the drawings and in a separate submittal to the Engineer, as required under subsection 6.17 Shop Drawings and Samples; D. Submittal Procedures, Paragraph 3 of the 1996 General Conditions.
D. The Contractor shall be responsible for the prompt submittal and resubmittal, as necessary, of all shop and working drawings so that there will be no delay in the work due to the absence of such drawings.

E. The Engineer will review the shop and working drawings as to their general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections of comments made on the drawings during the review do not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner. The review of the shop drawings is general and shall not relieve the Contractor of the responsibility for details of design, dimensions, code compliance, etc., necessary for interfacing with other components, proper fitting and construction of the work required by the Contract and for achieving the specified performance. The Engineer will review submittals two times: once upon original submission and a second time if the Engineer requires a revision or corrections. The Contractor shall reimburse the Owner amounts charged to the Owner by the Engineer for performing any review of a submittal for the third time or greater.

F. With few exceptions, shop drawings will be reviewed and returned to the Contractor within 30 days of submittal.

G. No material or equipment shall be purchased or fabricated especially for this Contract nor shall the Contractor proceed with any portion of the work, the design and details of which are dependent upon the design and details of equipment or other features for which review is required, until the required shop and working drawings have been submitted and reviewed by the Engineer as to their general conformance and compliance with the project and its Contract Documents. All materials and work involved in the construction shall then be as represented by said drawings.

H. Two copies of the shop and working drawings and/or catalog cuts will be returned to the Contractor. The Contractor shall furnish additional copies of such drawings or catalog cuts when he needs more than two copies or when so requested.

3.05 SAMPLES:

A. Samples specified in individual Sections include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols, and units of work to be used by the Engineer or Owner for independent inspection and testing, as applicable to the work.
B. The number of samples submitted shall be as specified. Submittal and processing of samples shall follow the procedures outlined for shop and working drawings unless the specifications call for a field submittal or mock-up.

C. Acceptance of samples will be acknowledged via a copy of the transmittal noting status. When samples are not acceptable, prompt resubmittal will be required.

END OF SECTION
EXHIBIT 1 TO SECTION 01330 SUBMITTALS

SHOP DRAWING TRANSMITTAL FORM
### Shop Drawing Transmittal

#### Instruction for Preparing Transmittal
- No action will be taken on any item unless accompanied by this form.
- TRANSMITTAL NOS. to be consecutive (1, 2, 3, etc.).
- Each resubmittal of same item shall use same number with suffix letter (A, B, etc.).
- SPEC. SECT. NO.: Only one spec. section no. to each transmittal.
- DESCRIPTION: Complete identification of document or group of documents.
- SOURCE: Originator of document(s) being submitted.

#### DRAWING NO.: Identification of document(s).
- CONTRACT DRAWING REFERENCE: Contract drawing number(s) showing details of document(s).
- SPECIAL INSTRUCTIONS: Special cases and emergencies, changes in distribution and special handling requests, etc. should be entered here.
- SIGNATURE OF CONTRACTOR: Signature of individual who reviews and approves material prior to submittal to engineer.

#### THIS SECTION TO BE COMPLETED BY CONTRACTOR

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<th>DATE</th>
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TO
- Attention: CSD (Davidb@wseinc.com)
- Weston & Sampson Engineers, Inc.
- 5 Centennial Drive
- Peabody, MA 01960-7985

FROM

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THIS CERTIFIES THAT ALL ITEMS SUBMITTED HERewith HAVE BEEN CHECKED BY THE CONTRACTOR, ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, EXCEPT AS NOTED, AND ARE APPROVED BY THE CONTRACTOR FOR THIS PROJECT.

**SIGNATURE & TITLE**

#### THIS SECTION TO BE COMPLETED BY WESTON & Sampson

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*Weston & Sampson*
PART 1 – GENERAL

1.01 WORK INCLUDED:

A. This section covers the requirements for documentation to be furnished by the Contractor on this project.

1.02 RELATED WORK:

A. Section 02428, CURED-IN-PLACE PIPE
B. Section 02429, CURED-IN-PLACE SHORT LINER
C. Section 02435, SEWER MANHOLE REHABILITATION
D. Section 02437, SEWER LINE AND MANHOLE CHEMICAL ROOT TREATMENT
E. Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING
F. Section 02443, SERVICE CONNECTION REHABILITATION

1.03 DOCUMENTATION:

A. The Contractor shall maintain printed television inspection logs of sewer segments/sewer manholes, for each sewer line segment and sewer manhole undergoing inspection/repair/rehabilitation under this contract and provide one (1) copy of the logs within five (5) working days of the work being performed. Log sheet format shall be approved by Engineer prior to start of work.

B. The log sheet(s) as a minimum shall clearly identify:

1. Project Name
2. Street Location, Name, Intersection, Station
3. Date of inspection
4. Total Length of Line Inspected
5. Total Depth of Manhole Inspected
6. Number, Size, and Position of All Pipe Connections (In Manhole)
7. Line Size(s)/Joint Spacing/Type
8. Line and Manhole Condition

9. Significant observations such as service connections, offset joints, drop joints, drop connections, broken/cracked pipe, intruding services, roots, collapsed sections, infiltration, presence of scale and corrosion and other discernible features and defects.

10. External Hard Drive with specific filenames.

C. All logs shall be provided to the Engineer in PDF format (one log per PDF file) at the completion of the project.

D. All television inspection shall be recorded in accordance with NASCCO specifications and as follow:
   - File Format: MPEG-4 (.mp4)
   - Codec: AVC (H.264)
   - Frame Size 16/9: 1280 x 720 or Frame Size 4/3: 960 x 720
   - Frame Rate: 60 fps
   - Pixel Aspect Ratio 1:1 (square pixels)
   - Video Standard: NTSC
   - Scan Type: Progressive

All television inspection shall include accompanying audio and shall be cross-referenced in an Access Database provided by the ENGINEER. Inspections shall be recorded one at a time, with each segment recorded as a separate file on the external hard drive. The contractor shall provide two (2) original and labeled copies of each external hard drive to the Engineer. All external hard drives shall have a typed label with the following:

[Date work was performed]
Wollaston Beach Area SSES Rehabilitation Project Phase II
Quincy, MA
Engineer: Weston & Sampson

File names for television inspection of pipes (video files, report files, and photographs taken during television inspection) shall be provided as following:

   a. AssetType_AssetId_Date_Media_Iteration
b. Where:

- **Asset ID** is in the format “USMH_DSMH” identifying upstream and downstream manholes for the pipe asset (this must match GIS manhole IDs, if available)
- **Date** is in the format “YYYYMMDD”
- **Media** can be either “Report”, “Video”, or “Picture”, and
- **Iteration** starts at “1” and increases by one (1) for each subsequent video in the same pipe asset.

For example, if the sewer from manhole 26764 to manhole 26765 on Watkins Street were inspected on August 1, 2014, the Video file name would be:

```
26764_26765_20140801_Video_1
```

And the Report file name would be:

```
26764_26765_20140801_Report_1
```

In the event of a reverse setup, the next filenames would be:

```
26764_26765_20140801_Video_2
26764_26765_20140801_Report_2
```

And the Picture file name would be:

```
26764_26765_20140801_Picture_1
```

Stationing shall be recorded at a minimum of every foot and at all points of interest, to allow instant access to any given footage. Manhole to manhole pipe segments shall not be split between two (2) external hard drives.

E. The Contractor shall additionally provide one (1) copy of all logs relative to work performed on sewer manholes within five (5) working days of the work being performed.

F. The Contractor shall take a digital photograph, in JPEG format, at each manhole before and after manhole rehabilitation. Digital photographs shall have a minimum resolution of eight (8) megapixels. The files shall be provided on the external hard drives as specified in 1.03.D.

File names for the inspection and/or rehabilitation of manholes (photographs, report files, and video files) shall be provided as the following:

a. **AssetType_AssetId_Date_Media_Iteration**
b. Where “AssetID” is the identifying number for the manhole asset, “Date” is in the format “YYYYMMDD”, “Media” can be either “Internal_Photo”, “Report”, or “CCTV”, and “Iteration” starts at “1” and increases by one (1) for each subsequent video in the same manhole asset. The “Iteration” does not need to increase if the same AssetID is inspected on a different day. The date provides the distinction. For example, if a photograph was taken of the pre-rehabilitation work performed on manhole asset ID 26765 on Dallas Street on August 1st, 2015, the photograph would be:

i. \textit{Sewer\_Nodes\_26765\_20150801\_Internal\_Photo\_1}

c. And the Report file name would be:

ii. \textit{Sewer\_Nodes\_26765\_20150801\_Report\_1}

d. And the post-rehabilitation photograph would be:

iii. \textit{Sewer\_Nodes\_26765\_20150801\_Internal\_Photo\_2}

e. In the event that the rehabilitation work was not completed until the following day, August 2\textsuperscript{nd}, the post-rehabilitation photograph would be:

iv. \textit{Sewer\_Nodes\_26765\_20150802\_Internal\_Photo\_1}

G. The Contractor shall deliver to the Owner, at no additional cost, two (2) external hard drives each including the following information at the end of the project. The external hard drives shall be USB powered and capable of USB 2.0 connectivity and will become the property of the Owner upon delivery. The Contractor shall use file folders to organize individual types of data on the external hard drives. The Contractor shall include the following data on the external hard drives prior to delivery to the Engineer.

- **Sewer Manhole Rehabilitation**
  - Pre and Post Rehabilitation Manhole Inspection Photos in JPEG format
    - Filenames shall contain sub-area and manhole designations e.g. “AR-059”
  - Each manhole rehabilitation log as a separate PDF file
    - Filenames shall contain sub-area and manhole designations e.g. “AR-049”

- **Sewer Line and Manhole Chemical Root Treatment**
  - Field logs as a PDF file

- **Clean, Inspect, Test, and Seal**
  - Television Inspection MPEG-1 Files
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each television inspection log as a separate PDF file
- Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”

- **Cured-in-Place Short Liner (and Cured-in-Place Structural Short Liner)**
  - Television Inspection MPEG-1 Files
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each television inspection log as a separate PDF file
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”

- **Cured-in-Place Pipe – Organized per Inversion**
  - Pre-inversion Television Inspection MPEG-1 Files
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each pre-inversion television inspection log as a separate PDF file
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each liner order sheet (describing the material ordered) as a separate PDF file
  - Each service connection reinstatement sign-off sheet as a separate PDF file
  - Each thermo couple log kept during inversion process as a separate PDF file
  - Post-inversion Television Inspection MPEG-1 Files
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each post-inversion television inspection log as a separate PDF file
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each material testing results report as a separate PDF file

- **Service Connection Test and Grout**
  - Television Inspection MPEG-1 Files
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
  - Each television inspection log as a separate PDF file
    - Filenames shall contain upstream and downstream sub-area and manhole designations as well as camera direction e.g. “AR-050 to AR-049 Downstream.”
PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION
SECTION 01380

HEALTH AND SAFETY PLAN

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Prior to the start of work on the site, Contractor shall prepare and submit a site-specific health and safety plan that includes consideration of all known and potential hazards at the site. Work may not proceed at the project site until the Contractor's health and safety plan has been received and reviewed by the Engineer.

1.02 REFERENCES:

A. OSHA 29 CFR 1910.120

PART 2 – PRODUCTS

2.01 HEALTH AND SAFETY PLAN:

A. The health and safety plan shall include, but not necessarily be limited to the following:

1. Identification of Contractor's Site Safety Officer.
2. Identification of Hazards and Risks Associated with Project.
4. Respiratory Protection Training Requirements.
5. Levels of Protection and Selection of Equipment Procedures.
6. Type of Medical Surveillance Program.
7. Personal Hygiene Requirements and Guidelines.
8. Zone Delineation of the Project Site.
10. Field Monitoring of Site Contaminants.
12. Listing of Emergency Contacts.
PART 3 - EXECUTION

3.01 PERSONAL PROTECTIVE EQUIPMENT:

A. The personal protective equipment required to provide the appropriate level of dermal and respiratory protection shall be determined based on the results of continuous air monitoring performed by the Contractor and the standards set forth in the Contractor's health and safety plan. The Engineer may conduct duplicate air monitoring for quality control purposes. Modified Level D protection shall be the minimum requirement for all on-site personnel.

END OF SECTION
SECTION 01535

TEMPORARY BYPASS PUMPING SYSTEM

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section includes furnishing of all materials, labor, equipment, power, and maintenance, to implement a temporary pumping system for the purpose of diverting existing sewer flows around the work area for the duration of the project for work specified under the Base Bid.

B. The design, installation and operation of the temporary pumping system shall be the Contractor’s responsibility. The Contractor shall employ the services of a vendor firm who can demonstrate to the Engineer that it has the required expertise in the design and operation of temporary bypass pumping systems. The vendor firm shall provide at least five references of projects similar in size and complexity to this project that have been performed by the firm within the past three years.

C. The by-pass system shall meet the requirements of all codes and regulatory agencies having jurisdiction.

1.02 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. The Contractor shall submit a detailed description of the proposed pumping system stamped by a Professional Engineer in the State of Massachusetts and submit it and the vendor’s references.

B. The Contractor shall submit to the Engineer detailed plans and descriptions outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing sewer flows. This plan must be specific and complete, including such items as schedules, locations, elevations, capacities of equipment, materials and all other incidental items necessary and/or required to insure proper protection of the facilities, including protection of the access and bypass pumping locations from damage due to the discharge flows, and compliance with the requirements and permit conditions specified in these contract documents. No construction shall begin until all provisions and requirements have been reviewed by the Engineer.

C. The plan shall include but not be limited to the following:

1. Staging areas for pumps;

2. Flow diversion method and types of materials;
3. Number, size, material, location and method of installation of suction piping;
4. Number, size, material, method of installation and location of discharge piping;
5. Bypass pump sizes, capacity, number of each size to be on site and the related power requirements;
6. Calculations of static lift, friction losses, and flow velocity (pump curves showing pump operating range shall be submitted);
7. Standby power generator size, location;
8. Downstream discharge plan;
9. Method of protecting suction and discharge areas from erosion and damage;
10. Thrust and restraint block sizes and locations;
11. Sections showing suction and discharge pipe depth, embedment, select fill and special backfill;
12. Method of noise control for each pump and/or generator, with external dB valve.
13. Any temporary pipe supports and anchoring required;
14. Design plans and computation for access to bypass pumping locations indicated on the drawings;
15. Calculations for selection of bypass pumping pipe size;
16. Schedule for installation of and maintenance of bypass pumping lines;
17. Plan indicating proposed location of bypass pumping lines.
18. Access and security provision for individual building bypass pumping.

1.03 RELATED WORK:

A. Section 01014, SCOPE AND SEQUENCE OF WORK

PART 2 - MATERIALS

2.01 EQUIPMENT:

A. All pumps used shall be centrifugal, end suction, fully automatic self-priming units that do not require the use of foot-valves, diaphragm pumps, isolation valves or vacuum pumps in the priming system. The pumps may be electric or diesel powered. All pumps
used must be constructed to allow dry running for long periods to accommodate the cyclical nature of bypass flows. The pumps shall not be hydraulic submersible type.

B. All pumps shall be Godwin Dri-prime Automatic Self-priming Pumps (CD, DPC, or HL Series) as manufactured by Godwin Pumps of America, Inc., (609) 467-3636, (301) 390-3806, or approved equal.

C. The Contractor shall provide the necessary stop/start controls for each pump.

D. The Contractor shall include one stand-by pump system (including suction and discharge piping) of each size to be maintained on site.

E. Additional back-up pumps shall be on-line, isolated from the primary system by a valve.

F. Discharge Piping - in order to prevent the accidental spillage of flows, all temporary discharge systems shall be constructed of rigid pipe with positive, restrained joints. Under no circumstances will aluminum “Irrigation” type piping or glued PVC pipe be allowed. Discharge hoses will only be allowed in short sections and with the specific permission of the Engineer.

G. Allowable piping materials will be Godwin “QD” steel pipe (Godwin Pumps of America, Inc.), or fused, high-density polyethylene pipe as manufactured by Phillips Driscopipe, Inc., or approved equal.

H. All pumps used for building service connection flow bypass pumping shall be electrical.

2.02 SYSTEM DESCRIPTION:

A. DESIGN REQUIREMENTS:

1. The Contractor shall provide all pipeline, plugs, pumps of adequate size to handle peak flow, and discharge piping to ensure that the total flow can be safely diverted around the area of work. Bypass pumping system will be required to operate 24 hours per day.

2. The Contractor shall have adequate standby power and pumping equipment available and ready for immediate operation and use in the event of an emergency or breakdown. One standby pump for each size pump utilized shall be installed at the mainline flow bypassing locations, ready for use in the event of primary pump failure.

3. Bypass pumping system shall be capable of bypassing the flow around the work area and of releasing any amount of flow up to full available flow into the work area as necessary for satisfactory performance of work.

4. The Contractor shall maintain all service 24-hours a day. This work shall be incidental to the project. If service by-pass is required, it will be in agreement
between the Contractor and Engineer.

5. The Contractor shall secure the private property during the entire duration of all individual building bypass pumping operations. The Contractor shall give the owner/contact person for the private building and Engineer a minimum of three (3) days advance notice. The Contractor is responsible for securing the premises and responsible for any damages or stolen material from the property during the individual building bypass operations due to him failing to secure the premises. When the individual building bypass pumping operation is complete, the Contractor must notify the owner/contact person and Engineer, secure the building, and leave building in the pre-construction condition.

B. PERFORMANCE REQUIREMENTS:

1. It is essential for the protection of the public safety and private property that there be no interruption in the flow throughout the duration of the project. To this end, the Contractor shall provide, maintain and operate all temporary facilities such as dams, plugs, pumping equipment (both primary and back-up units as required), conduits, all necessary power, and all other labor and equipment necessary to intercept wastewater flows before it reaches the point where it would interfere with his work, carry it past his work and return it to the existing sewer downstream of his work.

2. The design, installation and operation of the temporary pumping system shall be the Contractor’s responsibility. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction.

3. The Contractor shall provide all necessary means to safely convey the wastewater flow past the work area. The Contractor will not be permitted to stop or impede the flows under any circumstances.

4. The Contractor shall maintain flow around the work area in a manner that will not cause surcharging or significant level variations in the existing sewer, and that will protect public and private property from damage and flooding.

5. The Contractor shall protect water resources, wetlands and other natural resources.

6. The Contractor shall be responsible to meet noise requirements (73dbA @ 30’). All diesel driven primary and standby pumps shall be sound attenuated. The use of Critical Silenced Canopy Pumps or acoustical Whisper Pac enclosures for sound attenuation is required.

7. The temporary bypass pumping system shall include floats (or other acceptable level sensing devices) that will transmit a high water condition to an on-site autodialer that shall send an alarm condition to the Contractor’s Superintendent.
The autodialer shall also alert a designated “on-call” employee of the Contractor, should the Superintendent fail to acknowledge the call.

PART 3 - EXECUTION

3.01 FIELD QUALITY CONTROL AND MAINTENANCE.

A. The Contractor shall perform leakage and pressure tests of the bypass pumping discharge piping using clean water prior to actual operation. The Engineer shall be given 24 hours notice prior to testing.

B. Contractor shall inspect bypass pumping system every two hours to ensure that the system is working correctly.

C. The Contractor shall insure that the temporary pumping system is properly maintained and a responsible operator shall be on hand at all times when pumps are operating.

D. Spare parts for pumps and piping shall be kept on site as required.

E. Adequate hoisting equipment for each pump and accessories shall be maintained on the site.

3.02 PRECAUTIONS:

A. Contractor is responsible for locating any existing utilities in the area the Contractor selects to locate the bypass pipelines. The Contractor shall locate his by pass pipelines to minimize any disturbance to existing utilities and shall obtain approval of the pipeline locations from the Owner and the Engineer. All costs associated with relocating utilities and obtaining all approvals shall be paid by the Contractor.

B. During all bypass pumping operation, the Contractor shall protect the work area and all local utilities from damage inflicted by any equipment. The Contractor shall be responsible for all physical damage to public and private property caused by human or mechanical failure.

3.03 INSTALLATION AND REMOVAL:

A. The Contractor shall construct temporary bypass pumping structures only at the access locations indicated on the drawings and may be required to provide adequate suction conduit.

B. The Contractor shall exercise caution and comply with OSHA requirements when working in the presence of gases, combustible or oxygen-deficient atmospheres, and confined spaces.

C. Except as specifically permitted, the installation of the bypass pipelines is prohibited in all salt marsh/wetland areas. The pipeline must be located off streets and sidewalks and
on shoulders of the roads. When the bypass pipeline crosses local streets and private driveways, the Contractor must place the bypass pipelines in trenches and cover with temporary pavement. Upon completion of the bypass pumping operations, and after the receipt of written permission from the Engineer, the Contractor shall remove all the piping, restore all property to pre-construction condition and restore all pavement. The Contractor is responsible for obtaining any approvals from the Owner for placement of the temporary pipeline within public ways.

END OF SECTION

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PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers furnishing and installing traffic control signs and other devices.

1.02 SYSTEM DESCRIPTION:

The Contractor shall furnish and install all construction signs deemed necessary by and in accordance with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the U.S. Department of Transportation.

PART 2 - PRODUCTS

2.01 TRAFFIC WARNING AND REGULATING DEVICES:

Contractor shall provide warning signs, barricades and other devices in accordance with the specifications provided in the MUTCD. Size of signs, lettering, colors, method of support and other factors prescribed in the MUTCD shall be adhered to.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Contractor shall erect barricades, barrier fences, traffic signs, and other traffic control devices as required by the MUTCD, or as required by the Engineer, to protect the work area from traffic, pedestrians, and animals.

B. Contractor shall relocate barricades, signs and other devices as necessary as the work progresses.

C. Unless extended protection is required for specific areas, when the work has been completed, all temporary warning and regulatory devices used by the Contractor shall be removed so that traffic can move unimpeded through the area.

END OF SECTION
SECTION 01552

CONSTRUCTION ZONE SAFETY PLAN

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the provisions for complying with Commonwealth of Massachusetts requirements for construction zone safety plans on public works projects.

1.02 DESCRIPTION:

A. The Contractor shall implement traffic safety and control measures through the construction zone through road closures and detours and mitigate impacts on traffic outside of the construction zone in accordance with these contract documents.

1.03 RELATED WORK:

A. SECTION 01110, CONTROL OF WORK AND MATERIALS

B. SECTION 01550, SIGNAGE (TRAFFIC CONTROL)

C. SECTION 01553, TRAFFIC DETAIL OFFICER FOR TRAFFIC CONTROL

1.04 REFERENCES:

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects

Massachusetts Department of Transportation Standard Specifications for Highways and Bridges – latest edition

PART 2 - PRODUCTS

2.01 Traffic control devices utilized by the Contractor shall meet the requirements of these contract documents and the latest Massachusetts Department of Transportation (MassDOT) Standard Specifications and Manual On Uniform Traffic Control Devices (MUTCD).

PART 3 - EXECUTION

3.01 OPERATION:

A. Contractor shall be responsible for providing all temporary traffic control devices including barricades, barrier fences, signs, drums, cones, impact attenuators and other traffic control
devices in accordance with typical traffic management plans and details shown on the
drawings or as required by the Engineer.

B. The Contractor shall prepare temporary traffic management plans and details that deviates
significantly from the typical plans shown on the drawings and submit to the Engineer for
review and approval prior to start of the work.

C. Contractor shall relocate barricades, signs and other devices as necessary as the work
progresses as required by the Owner’s Traffic Control Officer or the Engineer.

D. Police details shall be utilized on this project.

D. If police details fail to show up for work at the construction zone at the usual time for start
of work, or otherwise leave the jobsite before work is completed for the day, the provisions
of the Alternative Plan will be followed by the Contractor.

3.02 ALTERNATIVE PLAN:

A. In accordance with 701 CMR 7.06(6), whenever required police details do not arrive on
time or fail to show up for work, the Alternative Plan will be implemented by the
Contractor.

B. The Alternative Plan for this project is as follows:

1. Contact local police department to inform them that the scheduled police detail has
failed to show up or has departed from the project site before work is completed for
the day.

2. Redeploy crew to work in areas not requiring temporary traffic control (if available).

END OF SECTION
SECTION 01553

TRAFFIC DETAIL OFFICERS FOR TRAFFIC CONTROL

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the provisions for furnishing Traffic Detail Officers for Traffic Control as described in Section 01110 CONTROL OF WORK AND MATERIALS.

1.02 DESCRIPTION:

A. The Contractor shall coordinate with the local jurisdiction’s Traffic Control Officer to determine the number of Officers deemed necessary to provide for public safety and to maintain a smooth flow of traffic through the construction area(s) affected.

1.03 RELATED WORK:

A. SECTION 01110, CONTROL OF WORK AND MATERIALS (SECTION 3.04 MAINTENANCE OF TRAFFIC)

B. SECTION 01550, SIGNAGE (TRAFFIC CONTROL)

C. SECTION 01552, CONSTRUCTION ZONE SAFETY PLAN

PART 2 - PRODUCTS

2.01 UNIFORMED OFFICERS:

A. Contractor shall provide the Traffic Control Officer with a minimum of 24 hours notice indicating the time of day, street location and confirm number of officers required for traffic control.

B. Contractor shall give the Traffic Control Officer a minimum of 8 hours prior cancellation notice should Contractor determine that due to weather or conditions beyond his control he would not need the scheduled officers.

C. Contractor shall pay for officer(s) at the prevailing rate established by the local police department should officers not be needed and the Contractor fails to cancel the officers as noted in 2.01.B above.
PART 3 - EXECUTION

3.01 OPERATION:

A. Contractor shall provide barricades, barrier fences, traffic signs, and other traffic control devices as required by the Owners Traffic Control Officer, or as required by the Engineer, to protect the work area from traffic, pedestrians, and animals.

B. Contractor shall relocate barricades, signs and other devices as necessary as the work progresses as required by the Owners Traffic Control Officer or the Engineer.

END OF SECTION
SECTION 01570
ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.01 DESCRIPTION:

A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.

B. The requirements set forth in this section of the specifications apply to cross-country areas, river and stream crossings, and construction in and adjacent to wetlands, unless otherwise specifically stated.

C. All work under this Contract shall be in accordance with the Conservation Commissions' Orders of Conditions as well as any conditional requirements applied, all of which are attached to Section 00890, PERMITS.

D. Prior to commencement of work, the Contractor shall meet with representatives of the Engineer to develop mutual understandings relative to compliance of the environmental protection program.

1.02 RELATED WORK:

A. Section 00890, PERMITS

B. Section 01330, SUBMITTALS

C. Section 02300, EARTHWORK

1.03 SUBMITTALS:

A. The Contractor shall submit for approval six sets of details and literature fully describing environmental protection methods to be employed in carrying out construction activities within 100 feet of wetlands or across areas designated as wetlands.

PART 2 - PRODUCTS

2.01 COMPOST FILTER TUBE:

A. Compost filter tubes shall consist of a 100% biodegradable exterior jute or coir netting with 100% wheat straw interior filling as manufactured by Granite Environmental, Inc.,
B. The compost filter tube shall consist of a minimum tube diameter of 12-inches for slopes up to 50-feet in length with a slope ratio of 3H: 1V or steeper. Longer slopes may require larger tube diameter or additional coursing of filter tubes to create a filter berm. Refer to the manufactures recommendations for situations with longer or steeper slopes.

C. Do not install in perennial, ephemeral or internment streams.

2.02 CATCH BASIN PROTECTION:

A. To trap sediment and to prevent sediment from clogging drainage systems, catch basin protection in the form of a siltation sack (Siltsack as manufactured by ACF Environmental, Inc. or approved equal) shall be provided as approved by the Engineer.

PART 3- EXECUTION

3.01 NOTIFICATION AND STOPPAGE OF WORK:

A. The Engineer will notify the Contractor in writing of any non-compliance with the provisions of the Order of Conditions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work through the Engineer until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREA OF CONSTRUCTION ACTIVITY:

A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.

3.03 PROTECTION OF WATER RESOURCES:

A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or other harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.
B. Special measures should be taken to insure against spillage of any pollutants into public waters.

3.04 CONSTRUCTION IN AREAS DESIGNATED AS WETLANDS ON THE DRAWINGS:

A. Insofar as possible, the Contractor shall make every effort to minimize disturbance within areas designated as wetlands or within 100-feet of wetland resource areas. Total easement widths shall be limited to the widths shown.

B. The Contractor shall perform his work in such a way that these areas are left in the condition existing prior to construction.

C. The elevations of areas designated as wetlands shall not be unduly disturbed by the Contractor's operations outside of the trench limits. If such disturbance does occur, the Contractor shall take all measures necessary to return these areas to the elevations which existed prior to construction.

D. In areas designated as wetlands, the Contractor shall carefully remove and stockpile the top 24 inches of soil. This topsoil material shall be used as backfill for the trench excavation top layer. The elevation of the trench shall be restored to the preconstruction elevations wherever disturbed by the Contractor's operation.

E. The Contractor shall use a trench box, sheeting or bracing to support the excavation in areas designated as wetlands.

F. Excavated materials shall not be permanently placed or temporarily stored in areas designated as wetlands. Temporary storage areas for excavated material shall be as required by the Engineer.

G. The use of a temporary gravel roadway to construct the pipeline in the wetlands area is not acceptable. The Contractor will be required to utilize timber or rubber matting to support his equipment in these areas. The timber or rubber matting shall be constructed in such a way that it is capable of supporting all equipment necessary to install the pipeline. The timber or rubber matting shall be constructed of materials and placed in such a way that when removed the material below the matting will not be unduly disturbed, mixed or compacted so as to adversely affect recovery of the existing plant life.

H. During construction, easements within wetlands shall be lined with a continuous line of compost filter tube.

3.05 PROTECTING AND MINIMIZING EXPOSED AREAS:

A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2)
months, temporary vegetation, mulching or other protective measures shall be provided as specified.

B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to insure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Engineer.

3.06 LOCATION OF STORAGE AREAS:

A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project, and shall require written approval of the Engineer. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Engineer.

B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control such as the placement of baled straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.

C. There shall be no storage of equipment or materials in areas designated as wetlands.

D. The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

3.07 PROTECTION OF LANDSCAPE:

A. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without written authority from the Owner. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized by the Engineer. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees which are not to be removed, particularly overhanging branches and limbs. The Contractor shall, in any event, be responsible for any damage resulting from such use.

B. Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. When there is unavoidable injury to branches, limbs and trunks of trees, the injured portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.

C. Where, in the opinion of the Engineer, trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or by his blasting or other operations, the Engineer may require the Contractor to adequately protect such trees by placing boards, planks, poles or fencing around them. Any trees or landscape feature scarred or
damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the expense of the Contractor. The Engineer will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of under the provisions of Section 02230, CLEARING AND GRUBBING.

D. Cultivated hedges, shrubs, and plants which could be injured by the Contractor's operations shall be protected by suitable means or shall be dug up, balled and temporarily replanted and maintained. After construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of a kind and quality at least equal to that existing at the start of the work.

3.08 DISCHARGE OF DEWATERING OPERATIONS:

A. Any water that is pumped and discharged from the trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.

B. Under no circumstances shall the Contractor discharge water to the areas designated as wetlands. When constructing in a wetlands area, the Contractor shall discharge water from dewatering operations directly to the nearest drainage system, stream, or waterway after filtering by an approved method.

C. The pumped water shall be filtered through filter fabric and baled hay/straw, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.

3.09 COMPOST FILTER TUBE:

A. Install tubes along contours and perpendicular to sheet or concentrated flow. Configure tubes around existing site features to minimize site disturbance and maximize capture area of stormwater run-off.

B. Secure tubes on slope with untreated hardwood stakes, up to 5-feet apart or as required to secure tubes in place. When staking is not possible, such as when tubes must be placed on pavement, heavy concrete or cinder blocks can be used behind tubes up to 5-feet apart or as required.

C. Tamp tubes in place to ensure good contact with soil surface. It is not necessary to trench tubes into existing grade. A 2-inch layer of loose compost material shall be placed on the uphill/flow side of tubes to fill space between soil surface and tubes.
D. Provide a 3-foot minimum overlap at ends of tubes to join in a continuous barrier and minimize unimpeded flow. Stake joining tubes snugly against each other to prevent unfiltered flow between them.

E. Stake ends of tubes with untreated hardwood stakes spaced 18-inches apart through tops of tubes. Curve ends of tubes uphill to prevent diversion of unfiltered run-off.

3.10 CATCH BASIN PROTECTION:

A. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Engineer, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation sacks shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation sacks from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected. The contractor shall properly dispose of all debris at no additional cost to the Owner.

END OF SECTION
SECTION 01575
HANDLING EXISTING FLOWS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers all materials, equipment, and labor required to handle existing sanitary and combined sewage flows and installation and maintenance of all temporary connections, plugs, and by-pass pumping for work under Alternate No. 1. Upon completion of the Project all temporary plugs and connections shall be removed and flows returned to the rehabilitated existing sewer pipes or flows transferred to the new pipes.

1.02 RELATED WORK:

Section 01330, SUBMITTALS

Section 01535, TEMPORARY BYPASS PUMPING SYSTEM

1.03 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

Six sets of complete, checked shop drawings, showing equipment, method of by-passing, and the method of transferring flows from the existing system to the new system.

PART 2 - PRODUCTS - NOT APPLICABLE

PART 3 - EXECUTION

3.01 MAINTAINING EXISTING FLOWS:

A. The Contractor shall maintain all flows in the existing system until construction is complete and ready for safe operation.

B. The Contractor shall protect against surcharging of the existing system upstream of the work area by installing adequate temporary by-pass pumping to handle dry weather and wet weather flows.

C. The Contractor shall repair any damage that occurs to existing pipes and structures to the satisfaction of the Engineer. Work performed under this section shall be considered incidental and shall not be measured separately for payment.

D. The Contractor shall not leave an active by-pass pumping system unmanned at any time and shall maintain a standby pump to be activated in the event the lead pump fails.
E. The Contractor shall not allow sanitary flow to discharge to any salt or fresh water body by means of overflow, by-pass pumping, or any other method that may contaminate these water areas.

END OF SECTION
SECTION 01740

CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to cleanup and make safe any and all areas deemed necessary by the Engineer.

1.02 RELATED WORK:

A. Section 00700 GENERAL CONDITIONS

B. Section 01110 CONTROL OF WORK AND MATERIALS

C. Section 01140 SPECIAL PROVISIONS

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

2.01 DAILY CLEANUP:

A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.

B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.

C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

2.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITIES:

A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, structures, such material or debris shall be
entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.

2.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary buildings and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied; shall remove silt fences and hay bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

2.04 RESTORATION OF DAMAGED PROPERTY:

A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

2.05 FINAL CLEANUP:

A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.

END OF SECTION
SECTION 02089
DUCTILE IRON GRAVITY AND FORCE MAIN PIPE
AND FITTINGS FOR SEwers

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers the furnishing, handling, hauling, laying, jointing, and testing of ductile iron pipe used for gravity sewer and force main construction, including fittings and appurtenant work as indicated on the drawings and as specified. Work also includes preparation and coating of the existing 20-inch force main at the four air release manholes.

1.02 RELATED WORK:

A. Section 01014, SCOPE AND SEQUENCE OF WORK

B. Section 01330, SUBMITTALS

1.03 QUALITY ASSURANCE

A. All pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured. The Contractor shall furnish in duplicate to the Engineer sworn certificates of such tests.

B. In addition, the Owner reserves the right to have any or all pipe, fittings and special castings inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the Owner's expense.

1.04 REFERENCES:

A. The following standards form a part of these specifications as referenced:

American Water Works Association

AWWA C104 Cement-Mortar Lining for Ductile- Iron Pipe and Fittings for Water Flexible Elastomeric Seals

AWWA C110 Ductile-Iron and Gray-Iron Fittings, 3 inches through 48 inches, for Water and Other Liquids

AWWA C111 Rubber Gasket Joints for Ductile- Iron and Gray-Iron Pressure Pipe and Fittings

AWWA C150 Thickness Design of Ductile-Iron Pipe

AWWA C151  Ductile-Iron Pipe, Centrifugally Cast for Water or Other Liquids

AWWA C153  Ductile-Iron Compact Fittings, 3 inches through 64 inches for Water Service.

AWWA C600  Installation of Ductile-Iron Water Mains

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of manufacturer's literature of the materials of this section shall be submitted to the Engineer for review.

B. Shop drawings shall consist of manufacturer's scale drawings, cuts or catalogs including descriptive literature and complete characteristics and specifications, and code requirements. Shop drawings shall be submitted for the ductile iron pipe, type of joint, fittings, couplings, filling rings, and lining and coating in accordance with specifications.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall use push-on joint type ductile iron pipe unless otherwise indicated on the plans or specified herein.

B. All ductile iron pipe shall be designed in accordance with AWWA C150 and shall be manufactured in accordance with AWWA C151.

C. Unless otherwise indicated or specified, ductile iron pipe shall be Thickness Class 52.

D. All pipe delivered to the job site shall be accompanied by independent testing laboratory reports certifying that the pipe and fittings conform to the above-mentioned specifications. In addition, the pipe shall be subject to thorough inspection and tests, the right being reserved for the Engineer to apply such of the tests specified, as he may from time to time deem necessary.

E. All cutting of pipe shall be done with a machine suitable for cutting DI pipe. Cut ends shall be beveled when recommended by the pipe manufacturer.
2.02 FITTINGS:

A. Fittings shall conform to the requirements of AWWA C110 or C153 as appropriate and shall be of a pressure classification at least equal to that of the pipe with which they are used.

B. The Contractor shall use ductile iron fittings. Cast-iron, Class 250 fittings may be substituted, upon approval of the Engineer, for ductile iron fittings.

C. Unless otherwise indicated, fittings shall have all bell mechanical joint ends.

2.03 GASKETS, GLANDS, NUTS AND BOLTS:

A. Gaskets, glands, nuts, bolts and accessories shall conform to AWWA C111 or C153 as appropriate.

B. Gaskets shall be of plain tipped rubber, suitable for exposure to the liquid within the pipe.

C. Glands shall be ductile or cast iron.

D. Bolts and nuts shall be high strength alloy.

2.04 LINING AND COATING:

A. The inside of pipe and fittings shall have a coating of Protecto 401 Ceramic Epoxy Interior Coating in accordance with coating manufacturers recommendations and applied at a 40 mils nominal thickness to interior surfaces of the pipe; or a fusion bonded epoxy [FBE] primer at 5 mils thickness and a fusion bonded polyethylene [FRP] surface coating, which may be used for pipe fittings.

B. The outside of pipe and fittings shall be coated with the standard asphaltic coating specified under the appropriate AWWA Standard Specification for pipe and fittings.

C. Machined surfaces shall be cleaned and coated with a suitable rust preventative coating at the shop immediately after being machined.

2.05 FLEXIBLE COUPLINGS:

A. All sleeve-type couplings and accessories shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed.

B. Couplings shall be cast or ductile iron and shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.

C. Couplings for buried pipe shall be Dresser 153; Smith-Blair Type 441 or 443; Romac Style 501; Ford Style FC1 or FC2; or approved equal.
2.06 PROTECTIVE COATING FOR AIR RELEASE MANHOLE PIPING

A. Protective Coating for exterior of pipe to use tape coating system per STOPAQ Wrapping band CZH, or approved equal, with the following supplemental requirements.

   a. Affidavit of compliance.

   b. The pipe areas shall be cleaned with a wire brush to carefully remove all dust, dirt, grease, loose rust, mill scale, old weathered paint, and efflorescence. All necessary special preparatory treatment, per the coating manufacturer's recommendations, shall then be applied.

   c. Two-layer system consisting of the STOPAQ self-healing corrosion prevention & sealant technology with the second layer being STOPAQ Outerwrap PVC mechanical protection tape over the top.

   d. Minimum thickness of inner wrap 124 mils, nominal.

   e. Minimum thickness of outer wrap 196 mils, nominal.

   f. Outer wrap applied separately. Apply per manufacturers’ recommendations (min. 50% overwrap).

B. Protective Coating for Joints, Flanges, and Bolts shall be as follows:

   a. Joints and Flanges shall be covered/filled with STOPAQ 4200 Filler or approved equal.

   b. STOPAQ 4100 Putty or approved equal shall be packed around bolts.

   c. Apply both the putty and the filler per manufacturers’ recommendation.

PART 3 - EXECUTION

3.01 INSPECTION BEFORE INSTALLATION:

Pipes and fittings shall be subjected to a careful inspection just before being laid or installed.

3.02 HANDLING AND CUTTING:

A. Any pipe or fitting which has a damaged lining, scratched or marred machine surface and/or abrasion of the pipe coating or lining shall be rejected and removed from the job-site.

B. Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.

C. In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portions, if so approved, may be cut off by
and at the expense of the Contractor before the pipe is laid so that the pipe used will be perfectly sound. The cut shall be made in the sound barrel at a point at least 12-inches from the visible limits of the crack.

D. Except as otherwise approved, all cutting shall be done with a machine suitable for cutting ductile iron pipe. Hydraulic squeeze cutters are not acceptable for cutting ductile iron pipe. Travel type cutters or rotary type abrasive saws may be used. All cut ends shall be examined for possible cracks caused by cutting.

E. Lined and coated pipe and fittings shall be assembled and installed with approved packing or gaskets of the type recommended by the pipe manufacturer for the particular lining used.

3.03 INSTALLATION:

A. Each pipe length shall be inspected before being laid to verify that it is not cracked. Pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.

B. Before a joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and conform to the required line and grade.

C. No pipe or fitting shall be permanently supported on saddles, blocking, or stones.

D. Branches and fittings shall be laid by the Contractor as indicated on the drawings, and/or as required by the Engineer. Open ends of pipe and branches shall be closed with DI caps secured in place with premolded gasket joints or as required by the Engineer.

E. All pipe joints shall be made as nearly watertight as practicable. There shall be no visible leakage at the joints and there shall be no sand, silt, clay, or soil of any description entering the pipeline at the joints. Where there is evidence of water or soil entering the pipeline, connecting pipes, or structures, the defects shall be repaired to the satisfaction of the Engineer.

F. The Contractor shall build a tight bulkhead in the pipeline where new work enters an existing sewer. This bulkhead shall remain in place until its removal is authorized by the Engineer.

G. Care shall be taken to prevent earth, water, and other materials from entering the pipe, and when pipe-laying operations are suspended, the Contractor shall maintain a suitable stopper in the end of the pipe and at openings for manholes.

H. As soon as possible after the pipe and manholes are completed on any street, the Contractor shall flush out the new pipeline using a rubber ball ahead of the water, and none of the flushing water or debris shall be permitted to enter any existing sewer.
3.04 PUSH ON JOINTS:

A. Joining of push-on joint pipe shall conform to AWWA C600.

B. If effective sealing of the joint is not attained, the joint shall be disassembled, thoroughly cleaned, a new gasket inserted and joint reassembled.

3.05 MECHANICAL JOINTS:

A. Assembling of fittings with mechanical joint ends shall conform to AWWA C600.

B. If effective sealing of the joint is not attained at the maximum torque indicated in the above standard, the joint shall be disassembled and thoroughly cleaned, then reassembled. Bolts shall not be overstressed to tighten a leaking joint.

3.06 SLEEVE-TYPE COUPLINGS:

A. Pipe ends shall be cleaned thoroughly prior to installation. After the bolts have been inserted and all nuts have been made up finger tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, preferable by use of a torque wrench of the appropriate size and torque for the bolts. The correct torque as indicated by a torque wrench shall not exceed 90 foot-lb.

3.07 QUALITY ASSURANCE

A. Quality assurance shall be confirmed through observation during Alternate No. 1 work.

END OF SECTION
SECTION 02300

EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED:

The Contractor shall make excavations of normal depth in earth for trenches and structures, shall backfill and compact such excavations to the extent necessary, shall furnish the necessary material and construct embankments and fills, and shall make miscellaneous earth excavations and do miscellaneous grading.

1.02 RELATED WORK:

A. Section 00890, PERMITS
B. Section 01110, CONTROL OF WORK AND MATERIALS
C. Section 01570, ENVIRONMENTAL PROTECTION
D. Section 02745, PAVING

1.03 REFERENCES:

American Society for Testing and Materials (ASTM)


ASTM C330 Specification for Lightweight Aggregate for Structural Concrete.

ASTM D1556 Test Method for Density of Soil in Place by the Sand Cone Method.

ASTM D1557 Test Methods for Moisture-density Relations of Soils and Soil Aggregate Mixtures Using Ten-pound (10 Lb.) Hammer and Eighteen-inch (18") Drop.

ASTM D2922 Test Methods for Density of Soil and Soil-aggregate in Place by Nuclear Methods (Shallow Depth).

Massachusetts Department of Transportation (MassDOT) Standard Specifications for Highways and Bridges.
1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

Samples of all materials proposed for the project shall be submitted to the Engineer for review. Size of the samples shall be as approved by the Engineer.

1.05 PROTECTION OF EXISTING PROPERTY:

A. The work shall be executed in such manner as to prevent any damage to facilities at the site and adjacent property and existing improvements, such as but not limited to streets, curbs, paving, service utility lines, structures, monuments, bench marks, observation wells, and other public or private property. Protect existing improvements from damage caused by settlement, lateral movements, undermining, washout and other hazards created by earthwork operations.

B. In case of any damage or injury caused in the performance of the work, the Contractor shall, at its own expense, make good such damage or injury to the satisfaction of, and without cost to, the Owner. Existing roads, sidewalks, and curbs damaged during the project work shall be repaired or replaced to at least the condition that existed at the start of operations. The Contractor shall replace, at his own cost, existing benchmarks, observation wells, monuments, and other reference points, which are disturbed or destroyed.

C. Buried drainage structures and pipes, observation wells and piezometers, including those which project less than eighteen inches (18") above grade, which are subject to damage from construction equipment shall be clearly marked to indicate the hazard. Markers shall indicate limits of danger areas, by means which will be clearly visible to operators of trucks and other construction equipment, and shall be maintained at all times until completion of project.

1.06 DRAINAGE:

A. The Contractor shall provide, at its own expense, adequate drainage facilities to complete all work items in an acceptable manner. Drainage shall be done in a manner so that runoff will not adversely affect construction procedures or cause excessive disturbance of underlying natural ground or abutting properties.

1.07 FROST PROTECTION AND SNOW REMOVAL:

A. The Contractor shall, at its own expense, keep earthwork operations clear and free of accumulations of snow as required to carry out the work.
B. The Contractor shall protect the subgrade beneath new structures and pipes from frost penetration when freezing temperatures are expected.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. GRAVEL BORROW:

Gravel Borrow shall satisfy the requirements listed in MassDOT Specification Section M1.03.0, Type b.

B. CRUSHED STONE:

Crushed stone shall satisfy the requirements listed in MassDOT Specification Section M2.01.

C. SAND BORROW:

Sand Borrow shall satisfy the requirements listed in MassDOT Specification Section M1.04.0.

D. PEASTONE:

Peastone shall be smooth, hard, naturally occurring, rounded stone meeting the following gradation requirements:

- Passing 5/8 inch square sieve opening: 100%
- Passing No. 8 sieve opening: 0%

E. BACKFILL MATERIALS:

1. Class B Backfill:

Class B backfill shall be granular, well graded friable soil; free of rubbish, ice, snow, tree stumps, roots, clay and organic matter; with 30 percent or less passing the No. 200 sieve; no stone greater than two-third (2/3) loose lift thickness, or six inches, whichever is smaller.

2. Select Backfill:

Select backfill shall be granular, well graded friable soil, free of rubbish, ice, snow, tree stumps, roots, clay and organic matter, and other deleterious or organic material; graded within the following limits:
<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Finer by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-inch</td>
<td>100</td>
</tr>
<tr>
<td>No. 10</td>
<td>30-95</td>
</tr>
<tr>
<td>No. 40</td>
<td>10-70</td>
</tr>
<tr>
<td>No. 200</td>
<td>0-10</td>
</tr>
</tbody>
</table>

H. SPECIAL PIPE BEDDING MATERIAL

1. The special pipe bedding material shall consist of a filter fabric installed on the trench bottom before backfilling with crushed stone as specified and as shown on the contract drawings. Filter fabric shall be as specified.

I. PROCESSED GRAVEL:

1. Processed gravel shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials. The coarse aggregate shall have a percentage of wear, by the Los Angeles Abrasion Test, of not more than 50.

2. The gradation shall meet the following requirements:

<table>
<thead>
<tr>
<th>Sieve Designation</th>
<th>Percentage Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-in.</td>
<td>100</td>
</tr>
<tr>
<td>1 ½-in.</td>
<td>70-100</td>
</tr>
<tr>
<td>¾-in.</td>
<td>50-85</td>
</tr>
<tr>
<td>No. 4</td>
<td>30-60</td>
</tr>
<tr>
<td>No. 200</td>
<td>0-10</td>
</tr>
</tbody>
</table>

3. The approved source of bank-run gravel material shall be processed by mechanical means. The equipment for producing crushed gravel shall be of adequate size with sufficient adjustments to produce the desired materials. The processed material shall be stockpiled in such a manner to minimize segregation of particle sizes. All processed gravel shall come from approved stockpiles.

PART 3 - EXECUTION

3.01 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION:

A. Contractor shall take the necessary steps to avoid disturbance of subgrade during excavation and filling operations, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials, dewatering and other acceptable control measures.
B. All excavated or filled areas disturbed during construction, all loose or saturated soil, and other areas that will not meet compaction requirements as specified herein shall be removed and replaced with a minimum 12-inch layer of compacted crushed stone wrapped all around in non-woven filter fabric. Costs of removal and replacement shall be borne by the Contractor.

C. The Contractor shall place a minimum of 12-inch layer of special bedding materials and crushed stone wrapped in filter fabric over the natural underlying soil to stabilize areas which may become disturbed as a result of rain, surface water runoff or groundwater seepage pressures, all at no additional cost to the Owner. The Contractor also has the option of drying materials in-place and compacting to specified densities.

3.02 EXCAVATION:

A. GENERAL:

1. The Contractor shall perform all work of any nature and description required to accomplish the work as shown on the Drawings and as specified.

2. Excavations, unless otherwise required by the Engineer, shall be carried only to the depths 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 gravel borrow and compacted at the Contractor's expense as specified below, except as otherwise indicated. Excavations shall be kept in dry and good conditions at all times, and all voids shall be filled to the satisfaction of the Engineer.

3. In all excavation areas, the Contractor shall strip the surficial topsoil layer and underlying subsoil layer separate from underlying soils. In paved areas, the Contractor shall first cut pavement as specified in paragraph 3.02 B.1 of this specification, strip pavement and pavement subbase separately from underlying soils. All excavated materials shall be stockpiled separately from each other within the limits of work.

4. The Contractor shall follow a construction procedure, which permits visual identification of stable natural ground. Where groundwater is encountered, the size of the open excavation shall be limited to that which can be handled by the Contractor's chosen method of dewatering and which will allow visual observation of the bottom and backfill in the dry.

5. The Contractor shall excavate unsuitable materials to stable natural ground where encountered at proposed excavation subgrade, as required by the Engineer. Unsuitable material includes topsoil, loam, peat, other organic materials, snow, ice, and trash. Unless specified elsewhere or otherwise required by the Engineer, areas where unsuitable materials have been excavated to stable ground shall be backfilled with compacted special bedding materials or crushed stone wrapped all around in
non-woven filter fabric.

B. TRENCHES:

1. Prior to excavation, trenches in pavement shall have the traveled way surface cut in a straight line by a concrete saw or equivalent method, to the full depth of pavement. Excavation shall only be between these cuts. Excavation support shall be provided as required to avoid undermining of pavement. Cutting operations shall not be done by ripping equipment.

2. The Contractor shall satisfy all dewatering requirements specified in Section 02240 DEWATERING, before performing trench excavations.

3. Trenches shall be excavated to such depths as will permit the pipe to be laid at the elevations, slopes, and depths of cover indicated on the Drawings. Trench widths shall be as shown on the Drawings or as specified.

4. Where pipe is to be laid in bedding material, the trench may be excavated by machinery to, or just below, the designated subgrade provided that the material remaining in the bottom of the trench is not disturbed.

5. If pipe is to be laid in embankments or other recently filled areas, the fill material shall first be placed to a height of at least 12-inches above the top of the pipe before excavation.

6. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed.

7. If, in the opinion of the Engineer, the subgrade, during trench excavation, has been disturbed as a result of rain, surface water runoff or groundwater seepage pressures, the Contractor shall remove such disturbed subgrade to a minimum of 12-inches and replace with crushed stone wrapped in filter fabric. Cost of removal and replacement shall be borne by the Contractor.

8. The Contractor shall obtain a trench permit from the municipality where the trench is located prior to making any excavations of trenches (any subsurface excavation greater than three (3) feet in depth and fifteen (15) feet or less between soil walls as measured from the bottom).

9. All trenches required to be permitted must be attended, covered, barricaded, or backfilled. Covers must be road plates at least ¾-inch thick or equivalent, barricades must be fences at least 6-feet high with no openings greater than 4-inches between vertical supports and all horizontal supports required to be located on the trench-side of the fencing.
C. EXCAVATION NEAR EXISTING STRUCTURES:

1. Attention is directed to the fact that there are pipes, manholes, drains, and other utilities in certain locations. An attempt has been made to locate all utilities on the drawings, but the completeness or accuracy of the given information is not guaranteed.

2. As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and excavation shall be done by means of hand tools, as required. Such manual excavation, when incidental to normal excavation, shall be included in the work to be done under items involving normal excavation.

3. Where determination of the exact location of a pipe or other underground structure is necessary for properly performing the work, the Contractor shall excavate test pits to determine the locations.

3.03 BACKFILL PLACEMENT AND COMPACtion:

A. GENERAL:

1. Prior to backfilling, the Contractor shall compact the exposed natural subgrade to the densities as specified herein.

2. After approval of subgrade by the Engineer, the Contractor shall backfill areas to required contours and elevations with specified materials.

2. The Contractor shall place and compact materials to the specified density in continuous horizontal layers, not to exceed nine (9) inches in uncompacted lifts. The degree of compaction shall be based on maximum dry density as determined by ASTM Test D1557, Method C. The minimum degree of compaction for fill placed shall be as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Percent of Maximum Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below pipe centerline</td>
<td>95</td>
</tr>
<tr>
<td>Above pipe centerline</td>
<td>92</td>
</tr>
<tr>
<td>Below pavement (upper 3 ft.)</td>
<td>95</td>
</tr>
<tr>
<td>Embankments</td>
<td>95</td>
</tr>
<tr>
<td>Below pipe in embankments</td>
<td>95</td>
</tr>
<tr>
<td>Adjacent to structures</td>
<td>92</td>
</tr>
<tr>
<td>Below structures</td>
<td>95</td>
</tr>
</tbody>
</table>

4. The Engineer reserves the right to test backfill for conformance to the specifications and Contractor shall assist as required to obtain the information. Compaction testing
will be performed by the Engineer or by an inspection laboratory designated by the Engineer, engaged and paid for by the Owner. If test results indicate work does not conform to specification requirements, the Contractor shall remove or correct the defective Work by recompacting where appropriate or replacing as necessary and approved by the Engineer, to bring the work into compliance, at no additional cost to the Owner. All backfilled materials under structures and buildings shall be field tested for compliance with the requirements of this specification.

5. Where horizontal layers meet a rising slope, the Contractor shall key each layer by benching into the slope.

6. If the material removed from the excavation is suitable for backfill with the exception that it contains stones larger than permitted, the Contractor has the option to remove the oversized stones and use the material for backfill or to provide replacement backfill at no additional cost to the Owner.

7. The Contractor shall remove loam and topsoil, loose vegetation, stumps, large roots, etc., from areas upon which embankments will be built or areas where material will be placed for grading. The subgrade shall be shaped as indicated on the Drawings and shall be prepared by forking, furrowing, or plowing so that the first layer of the fill material placed on the subgrade will be well bonded to the subgrade.

B. TRENCHES:

1. Bedding as detailed and specified shall be furnished and installed beneath the pipeline prior to placement of the pipeline. A minimum bedding thickness shall be maintained between the pipe and undisturbed material, as shown on the Drawings.

2. As soon as practicable after pipes have been laid, backfilling shall be started.

3. Unless otherwise indicated on the Drawings, select backfill shall be placed by hand shovel in 6-inch thick lifts up to a minimum level of 12-inches above the top of pipe. This area of backfill is considered the zone around the pipe and shall be thoroughly compacted before the remainder of the trench is backfilled. Compaction of each lift in the zone around the pipe shall be done by use of power-driven tampers weighing at least 20 pounds or by vibratory compactors. Care shall be taken that material close to the bank, as well as in all other portions of the trench, is thoroughly compacted to densities required.

4. Class B backfill shall be placed from the top of the select backfill to the specified material at grade (loam, pavement subbase, etc.). Fill compaction shall meet the density requirements of this specification.

5. Water Jetting:

   a. Water jetting may be used when the backfill material contains less than 10
percent passing the number 200 sieve, but shall be used only if approved by the Engineer.

b. Contractor shall submit a detailed plan describing the procedures he intends to use for water jetting to the Engineer for approval prior to any water jetting taking place.

c. Compaction of backfill placed by water jetting shall conform to the requirements of this specification.

6. If the materials above the trench bottom are unsuitable for backfill, the Contractor shall furnish and place backfill materials meeting the requirements for trench backfill, as shown on the drawings or specified herein.

7. Should the Engineer order crushed stone for utility supports or for other purposes, the Contractor shall furnish and install the crushed stone as directed.

8. In shoulders of streets and road, the top 12-inch layer of trench backfill shall consist of processed gravel for sub-base, satisfying the requirements listed in MassDOT standard specification M1.03.1.

D. BACKFILLING ADJACENT TO STRUCTURES:

1. The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads to which they will be subjected. Excavated material approved by the Engineer may be used in backfilling around structures. Backfill material shall be thoroughly compacted to meet the requirements of this specification.

2. Contractor shall use extra care when compacting adjacent to pipes and drainage structures. Backfill and compaction shall proceed along sides of drainage structures so that the difference in top of fill level on any side of the structure shall not exceed two feet (2’) at any stage of construction.

3. Where backfill is to be placed on only one side of a structural wall, only hand-operated roller or plate compactors shall be used within a lateral distance of five feet (5’) of the wall for walls less than fifteen feet (15’) high and within ten feet (10’) of the wall for walls more than fifteen feet (15’) high.

3.04 DISPOSAL OF SURPLUS MATERIALS:

A. Surplus excavated materials, which are acceptable to the Engineer, shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill. Upon written approval of the Engineer, surplus excavated materials shall be neatly deposited and graded so as to make or widen fills, flatten side slopes, or fill depressions; or shall be neatly deposited for other purposes as indicated by the Owner, within its

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jurisdictional limits; all at no additional cost to the Owner.

B. Surplus excavated material not needed as specified above shall be hauled away and disposed of by the Contractor at no additional cost to the Owner, at appropriate locations, and in accordance with arrangements made by him. Disposal of all rubble shall be in accordance with all applicable local, state and federal regulations.

C. No excavated material shall be removed from the site of the work or disposed of by the Contractor unless approved by the Engineer.

D. The Contractor shall comply with Massachusetts regulations (310 CMR 40.0032) that govern the removal and disposal of surplus excavated materials. Materials, including contaminated soils, having concentrations of oil or hazardous materials less than an otherwise Reportable Concentration and that are not a hazardous waste, may not be disposed of at locations where concentrations of oil and/or hazardous material at the receiving site are significantly lower than the levels of those oil and/or hazardous materials present in the soil being disposed or reused.

END OF SECTION
SECTION 02428

CURED-IN-PLACE PIPE

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section covers installation of cured-in-place pipe as called for herein and on the drawings. The work includes furnishing all equipment, material and labor required to perform the services described herein.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS
B. Section 00890, PERMITS
C. Section 01014, SCOPE AND SEQUENCE OF WORK
D. Section 01330, SUBMITTALS
E. Section 01331, DOCUMENTATION
F. Section 01575, HANDLING EXISTING FLOWS
G. Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING
H. Section 02443, SERVICE CONNECTION REHABILITATION

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM F1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
The National Association of Sewer Service Companies (NASSCO)

Performance Specification Guideline for the Installation of Cured-in-Place Pipe (CIPP)

1.05 SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, installation of cured-in-place pipe shall be carried out in accordance with ASTM F1216, Section 7.

B. Curing of liner tube using hot water or steam shall be acceptable.

C. The Contractor shall design all cured-in-place liners assuming partially deteriorated pipe conditions and a groundwater height above the crown of the pipe equal to one-half (50%) of the distance between the ground surface and the invert of the sanitary sewer line to be rehabilitated unless otherwise noted below.

D. The Contractor may propose alternative cured-in-place processes and/or products for review and approval by the Engineer.

E. The location, length, and approximate interior dimensions of the cured-in-place pipe to be installed are as shown on the drawings.

F. The Contractor shall provide MSDS for all chemicals used in the lining process.

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning the work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the Work.

2. Descriptions of system proposed for handling existing flows, if necessary, during the procedures to be carried out.

3. Description of the system, equipment and material proposed for the cured-in-place pipe.

4. Manufacturer’s warranty.

B. Prior to beginning the work, the Contractor shall submit, a written plan and draft notices for contacting homeowners and businesses whose service connections may be affected due to the installation of liner. Notices are to be distributed at 1-week and 24-hours prior to liner installation. Such plan and notices are subject to approval by the Engineer and the Owner.
C. The Contractor shall submit the following information for each inversion within 21 days following completion of the liner installation.

- Pre-inversion television inspection logs and external hard as described in Section 01331, DOCUMENTATION
- Liner order sheet describing the material ordered
- Service connection reinstatement sign-off sheet
- Thermo couple log kept during inversion process
- Post-inversion television inspection logs and external hard drives as described in Section 01331, DOCUMENTATION
- Material testing results

Information should be organized by inversion and two (2) copies shall be delivered.

1.07 WARRANTY:

The cured-in-place pipe shall be warranted against infiltration and faulty workmanship and materials for one (1) year from the date the project is accepted by the Owner.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Materials used for the cured-in-place pipe shall meet the requirements of ASTM F1216.

B. Cured-in-place pipe shall be as manufactured by Insituform Technologies, National Liner, Cure-Line, or approved equal.

C. Hydrophylic rubber gaskets shall have two (2) beads of material protruding from one side of the strip and shall swell to a minimum of three times its dry size when in contact with water. Flat types of gaskets shall not be accepted. Gaskets shall be manufactured by Hydrotite or approved equal.

PART 3 - EXECUTION

3.01 PIPE CLEANING AND INSPECTION:

Pipe cleaning and inspection shall be carried out in accordance with Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING and shall not be measured separately for payment.

3.02 FLUSHING/DYED WATER TESTING FOR ACTIVE/INACTIVE SERVICE CONNECTIONS IN CONJUNCTION WITH TV INSPECTION:

A. Dye testing of sewer service connections shall be performed prior to the installation of structural cured-in-place pipe.
B. Testing shall be conducted concurrently with the television inspection of the sanitary and surface sewer. The Contractor shall observe a building service or catch basin connection(s) with a television camera positioned in the sewer main while flushing/dyed water testing the building or catch basin, so that the service connection can be identified as active or inactive. All service connections found to be inactive as confirmed by the Engineer shall not be re-instated after the cured-in-place lining process.

3.03 FLOW CONTROL:

Flow control, if required, shall be in accordance with Section 01535, TEMPORARY BY-PASS PUMPING and Section 01575, HANDLING EXISTING FLOWS.

3.04 WATER FOR CONSTRUCTION PURPOSES:

Availability of water for construction purposes shall be in accordance with Section 01140, SPECIAL PROVISIONS.

3.05 NOTIFICATION:

A. The Contractor shall affix a written notice to the door of each home that has sewer service through the pipe being lined one week prior to the lining operation and again one day before the lining operation. A notice shall also be distributed following service connection reinstatement stating that the service connection has been restored to service.

B. The written notices must be approved by the Engineer prior to distribution.

C. The printing and distribution of notices to the homeowners and businesses by the Contractor shall be considered incidental to the lining operation.

3.06 INSTALLATION:

A. Each sewer segment shall be television inspected prior to the installation of the cured-in-place liner. The inspection shall be performed in “dry-pipe” conditions with no flow in the pipe. The pipe shall be clean and free of all obstructions prior to installation of the liner.

B. Prior to installation of the cured-in-place pipe the Contractor shall install a hydrophilic rubber gasket on the inside of each pipe where it meets a manhole such that the hydrophilic rubber gasket is between the host pipe and the cured-in-place pipe. The annular space shall be made watertight at the ends of the liner in the manholes.

I. Prior to installation of the cured-in-place pipe, grouting or other rehabilitation to remove any active infiltration within the pipeline which may prohibit installation of the CIPP shall be considered incidental to the work and shall not be measured separately.
for payment. The grouting of joints shall be sealed with grout in accordance with Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

C. Installation of the cured-in-place pipe shall be in accordance with ASTM F1216, Section 7.

D. After the liner has been cured in place, the Contractor shall reinstate all active service connections as required by the Engineer. Branch connections to buildings shall be reinstated to a minimum of 95% of the inside diameter of the existing service connection without excavation, utilizing a remotely controlled cutting device, monitored by a video TV camera. No additional payment will be made for the reinstatement of services connections, nor will additional payment be made for excavations for the purpose of reinstating connections and the contractor will be responsible for all cost and liability associated with such excavation and restoration work.

E. The service connections to be reinstated for each inversion will be listed on the attached form (Service Connection Reinstatement Certification Form) and will be signed by an authorized representative of the Contractor.

F. The Contractor shall make a mainline television inspection camera available for confirming service connections to be reinstated. At the Engineer’s discretion, the Contractor shall dye test service connections in order to confirm that each service connection that should be reinstated is included on the attached Service Connection Reinstatement Certification Form. No additional payment will be made for television inspection in conjunction with dye testing of service connections.

G. All reinstated service connections shall be sealed with grout in accordance with Section 02443, SERVICE CONNECTION REHABILITATION. The Contractor shall make certain that the annular space between the host pipe and the cured-in-place pipe is fully sealed with grout.

H. Each sewer segment shall be television inspected after the liner installation and service grouting have been completed. The inspection shall be performed in “dry-pipe” conditions with no flow in the pipe. Post rehabilitation television inspection shall be performed prior to removing any sewer bypass equipment. Post rehabilitation television inspection shall be considered incidental to the lining process and shall not be measured separately for payment.

3.07 TESTING REQUIREMENTS:

A. Cured-in-place pipe samples shall be prepared and tested by the Contractor in accordance with ASTM F1216 Section 8.1 unless otherwise stated in this section.

B. The Contractor shall obtain samples for each pipe inversion.
C. If field conditions or pipe shape prevent the Contractor from obtaining the samples as specified in ASTM F1216 Section 8.1 the samples shall be taken as required by the Engineer.

D. An independent testing laboratory shall test the cured-in-place pipe samples and the results are to be sent directly to the Engineers Resident Project Representative within 21 calendar days following the completion of each inversion.

E. The cost of obtaining the samples and testing shall be the sole responsibility of the Contractor and shall be considered incidental to the lining process.

F. Inversions where the cured-in-place pipe samples that do not meet the requirements of ASTM D790 and D638 as indicated in ASTM F1216 Section 8 will be televised by the Contractor, as required by the Engineer, at no additional cost to the Owner, for review by the Engineer. Liner deemed unacceptable by the Engineer will be removed and replaced at no additional cost to the Owner.

3.08 FIELD TESTING/INSPECTION:

A. Prior to expiration of the warranty period, during periods of high groundwater, and at a time to be approved by the Engineer, the Contractor shall clean and television inspect each of the cured-in-place pipes in accordance with Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING. The contractor shall repair any defects found in the cured-in-place pipe. The contractor shall reseal the annular space between the sewer main and the cured-in-place pipe at manhole locations and service connections until there are no visible leaks through television inspection.

B. All inspecting and resealing or lining within the warranty period shall be provided at no additional cost to the Owner.

3.09 MWRA CIPP REQUIREMENTS:

A. The discharge of wastewater from the installation of cured-in-place pipe (CIPP) lining as part of a sewer rehabilitation project, into the MWRA system is prohibited, unless authorized by the MWRA in advance. Wastewater discharge from CIPP lining into a pipeline must comply with MWRA Sewer Use Regulations, 360 CMR 10.021 through 10.024 prior to mixing with any other streams.

B. The Contractor shall be responsible to complete and submit a MWRA “One-Time-Only Request to Discharge from CIPP Lining Process” Form. The Contractor shall obtain authorization at least thirty (30) days prior to discharging. Any treatment testing or disposal of inversion water shall be the responsibility of the Contractor and at no additional cost to the Owner.
C. The Contractor shall provide a signed copy of the approved MWRA Form to the Engineer prior to any lining.
SERVICE CONNECTION REINSTATEMENT CERTIFICATION FORM

The Contractor shall review sewer tie cards, television inspection tapes, and perform dye tests as necessary to determine which service connections should be reinstated following installation of a Cured-in-Place Liner. Details regarding the location of each service connection that will be reinstated, including Manhole-to-Manhole reach, stationing, and clock position shall be recorded on this form.

Service Connections to be Reinstated (Clock Position)

<table>
<thead>
<tr>
<th>Inversion #</th>
<th>MH to MH</th>
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<tbody>
<tr>
<td></td>
<td>MH _____ to MH _____</td>
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<td>MH _____ to MH _____</td>
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<td>MH _____ to MH _____</td>
</tr>
</tbody>
</table>

The Contractor shall be responsible for reinstatement of all active service connections following Cured-in-Place Lining. If active service connections are found, at any future date, not to have been reinstated, the Contractor shall reinstate them within three (3) calendar days of notification, at his sole expense.

Contractor

_____________________________  
Signature  Date

_____________________________
Print Name

END OF SECTION
SECTION 02429
CURED-IN-PLACE SHORT LINER

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers installation of cured-in-place short liners as called for herein and on the drawings. The work includes furnishing all equipment, material and labor required to perform the services described herein.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS
B. Section 01014, SCOPE AND SEQUENCE OF WORK
C. Section 01330, SUBMITTALS
D. Section 01331, DOCUMENTATION
E. Section 01575, HANDLING EXISTING FLOWS
F. Section 02428, CURED-IN-PLACE PIPE
G. Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING
H. Section 02443, SERVICE CONNECTION REHABILITATION

1.03 QUALITY ASSURANCE:

The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM F1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduit by the Inversion and Curing of a Resin-Impregnated Tube.
The National Association of Sewer Service Companies (NASSCO)

Fiber Spot Repair System Sectional Cured-in-Place Pipe (Amerik Supplies)
Specification for Cured-in-Place Point Repair (Magnaline Process)

1.05 SYSTEM DESCRIPTION:

A. The cured-in-place short liners shall be epoxy resin impregnated cured-in-place liners, installed where indicated on the drawings. The short liners shall be thoroughly impregnated with epoxy resin prior to insertion and upon curing shall form a hard, impervious, corrosion resistant lining. When cured, the short liner shall be formed to the internal circumference of the host pipe. The short liner shall be impervious to water and shall not allow infiltration to migrate between the liner and the host pipe at either end of the liner or in the area where a service connection has been reinstated.

B. The Contractor shall design cured-in-place short liners assuming partially deteriorated pipe conditions and a groundwater height above the crown of the pipe equal to one-half (50%) of the distance between the ground surface and the invert of the sanitary sewer line to be rehabilitated.

C. The Contractor shall design structural cured-in-place short liners assuming fully deteriorated pipe conditions and a groundwater height above the crown of the pipe equal to one-half (50%) of the distance between the ground surface and the invert of the sanitary sewer line to be rehabilitated.

D. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.”

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning the work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the Work.

2. Descriptions of system proposed for handling existing flows, if necessary, during the procedures to be carried out.

3. Description of the system, equipment and material proposed for the cured-in-place short liners.

4. MSDS for all chemicals used in the short lining process.

5. Manufacturer’s Warranty.

B. Refer to Section 01331, DOCUMENTATION, for required documentation to be submitted.
1.07 WARRANTY:

The short liners shall be warranted against infiltration and faulty workmanship and materials for one year from the date the project is accepted by the Owner.

PART 2 - PRODUCTS

2.01 MATERIALS:

Materials used for the cured-in-place short liners shall meet the requirements of ASTM F1216.

PART 3 - EXECUTION

3.01 PIPE CLEANING AND INSPECTION:

Pipe cleaning and inspection shall be carried out in accordance with Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

3.02 FLOW CONTROL:

Flow control, if required, shall be in accordance with Section 01575, HANDLING EXISTING FLOWS.

3.03 STRUCTURAL REQUIREMENTS:

The design of the cured-in-place short liners shall meet the requirements of ASTM F1216 X1, taking into consideration the condition of the original pipe.

3.04 INSTALLATION:

A. The cured-in-place short liner installation procedures shall be in accordance with the manufacturer’s written instructions, and as herein specified.

B. The edges of the short liners shall be tapered at both ends.

C. No significant pipe volume change shall occur due to installation of the short liners.

D. Prior to installation, grouting or other rehabilitation to remove any active infiltration within the pipeline which may prohibit installation of the cured-in-place short liner shall be considered incidental to the work and shall not be measured separately for payment.

E. The short liners shall be installed so as to force excess resin into any cracks, joints or other surface defects of the existing interior pipe wall surface.
F. Each short liner shall have a minimum length of three (3) linear feet. The location and length of the short liners shall be as indicated on the drawings and as required by the Engineer.

G. After the short liner has been cured in place, the Contractor shall reinstate the existing service connections. Branch connections to buildings shall be reopened without excavation, per ASTM F1216, paragraph 7.9. No additional payment will be made for reinstating services connections nor will additional payment be made for excavations for the purpose of reopening connections and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

H. After the existing service connections have been reinstated, the Contractor shall grout the service connections, in accordance with Section 02443, SERVICE CONNECTION REHABILITATION. The Contractor shall make certain that the annular space between the sewer main and the cured-in-place short liner is fully sealed with grout.

3.05 FIELD TESTING/INSPECTION:

A. Prior to expiration of the warranty period, during periods of high groundwater, and at a time to be approved by the Engineer, the Contractor shall television inspect each of the short liners in accordance with paragraph 3.02 of Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING. The Contractor shall repair any defects found and shall seal the annular space between the liner and the host pipe until there are no visible leaks through television inspection.

B. All inspecting and sealing within the warranty period shall be provided at no additional cost to the Owner.

END OF SECTION
SECTION 02435

SEWER MANHOLE REHABILITATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the rehabilitation of sewer manholes as called for herein and on the drawings. It is the intent of this specification to provide for the waterproofing, sealing, and structural enhancement of existing manholes by chemical grout exterior sealing of sewer manhole inverts, walls and corbels; and by application of a uniform cementitious layer of high-quality mortar. Additional manhole rehabilitation related items include manhole root treatment, and build manhole bench and invert.

B. The work shall include: elimination of infiltration by external chemical grout sealing; removal and patching of loose and/or unsound material; cleaning and preparation of surfaces; repair of invert, bench, and walls; and chemical grout sealing of the invert, bench, walls, and pipe connections; and spray application of a cementitious mix to form a liner. Other repairs shall be completed as indicated on the drawings and described herein.

C. The contractor shall furnish all equipment, material and labor required to perform all manhole rehabilitations described in this specification.

D. External grouting of inverts, bench, walls, corbel, and pipe connections shall be performed prior to application of cementitious mix.

E. Available manhole inspection logs are included in Appendix C for reference.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS

B. Section 01014, SCOPE AND SEQUENCE OF WORK

C. Section 01330, SUBMITTALS

D. Section 01331, DOCUMENTATION

E. Section 01575, HANDLING EXISTING FLOWS
1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

   The National Association of Sewer Service Companies (NASSCO)

   Performance Specification Guideline for Manhole Rehabilitation

   American Society for Testing and Materials (ASTM)

   ASTM C94  Ready-Mix Concrete
   ASTM C109  Comprehensive Strength
   ASTM C267  Chemical Resistance
   ASTM C596  Shrinkage
   ASTM C666, Method A  Freeze/Thaw Resistance
   ASTM D4414  Standard Practice for Measurement of Wet Film Thickness for Organic Coatings
   ASTM 543  Resistance of Plastics to Chemical Reagents
   ASTM 638  Tensile Properties of Plastic
   ASTM 695  Comprehensive Properties of Rigid Plastics
   ASTM D790  Flexural Properties of Unreinforced and Reinforced Plastics

1.05 CEMENTITIOUS LINING SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, sewer manhole sealing shall be carried out in accordance with the current edition of the Performance Specification Guideline for Manhole Rehabilitation (NASSCO).

B. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.

C. The locations of the cementitious lining work to be completed are as shown on the drawings.
1.06 EPOXY LINER SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, the application of an epoxy liner shall be carried out in accordance with the current edition of the PROTECTION OF UNDERGROUND CONCRETE AND MASONRY STRUCTURES AND MANHOLES (As provided by Raven Lining Systems) of NASSCO Recommended Specifications for Sewer Collection System Rehabilitation.

B. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.

C. The locations where the epoxy liner is to be applied are indicated on the drawings.

1.07 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning the work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the work.

2. Provide at least five (5) references of different projects in which at least 50 manholes have been rehabilitated by the firm within the past three (3) years.

3. Provide at least three (3) references of different projects completed in the last three (3) years in which an epoxy finish was applied to sanitary sewer manholes.

4. Description of the system, equipment and material with MSDS Data Sheets proposed for sewer manhole rehabilitation.

5. Description of the system proposed for bypass pumping during the procedures to be carried out.

6. Manufacturer’s warranty

B. Refer to Section 01331, DOCUMENTATION, for required documentation to be submitted.

1.08 WARRANTY:

A. The manhole rehabilitation work performed shall be warrantied against infiltration and faulty workmanship and materials for a period of one (1) year after the project is accepted by the Owner.
PART 2 - PRODUCTS

2.01 REHABILITATION MATERIALS:

All products used for lining, sealing, patching, and cleaning shall be environmentally safe. The contractor shall submit MSDS Data Sheets for all materials used.

2.02 SEALING OF INVERT, STOPPING ACTIVE LEAKS AND EXTERIOR CHEMICAL SEALING:

The contractor shall use a chemical grout that is environmentally safe for the sealing of sewers. The chemical grout shall be in accordance with Part 2, Products, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

2.03 PATCHING MIX:

A quick-setting cementitious material shall be used as a patching mix and is to be mixed and applied according to the manufacturer’s recommendation and shall have the following minimum requirements.

<table>
<thead>
<tr>
<th>Property</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>ASTM C-109</td>
<td>6 hr 1,400 psi</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>ASTM C-596</td>
<td>0% AT 90% Relative Humidity</td>
</tr>
</tbody>
</table>

2.04 INFILTRATION CONTROL MIX:

A rapid-setting cementitious product specifically for leak control shall be used to stop water infiltration and shall be mixed and applied according to the manufacturer’s recommendations and shall have the following minimum requirements.

<table>
<thead>
<tr>
<th>Property</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>ASTM C-109</td>
<td>1 hr 600 psi</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>ASTM C-109</td>
<td>24 hr 1,800 psi</td>
</tr>
</tbody>
</table>

2.05 LINER MIX:

A. The cementitious liner mix shall be used to form a structural enhancing monolithic liner covering all interior manhole surfaces and shall have the following minimum requirements at 28 days:

<table>
<thead>
<tr>
<th>Property</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>ASTM C-109</td>
<td>6,000 psi</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>ASTM C-596</td>
<td>0%, 90% humidity</td>
</tr>
<tr>
<td>Freeze/Thaw Resistance</td>
<td>ASTM C-666</td>
<td>No visible damage after 100 cycles</td>
</tr>
</tbody>
</table>

B. The liner mix shall be applied in one monolithic layer.
2.06 EPOXY MIX:

The epoxy liner mix shall be composed of 100% solids, solvent-free, moisture tolerant, two-component epoxy resin system, thixotropic in nature and filled with select fillers to minimize permeability. The epoxy liner mix shall form an interlocking bond to freshly applied cementitious mortars and conform to the manufacturer’s specifications to prevent delaminating powders from forming during hydration. The epoxy liner shall have the following minimum requirements.

<table>
<thead>
<tr>
<th>Property</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>ASTM D695</td>
<td>&gt;4,000 psi</td>
</tr>
<tr>
<td>Tensile Strength, psi</td>
<td>ASTM D638</td>
<td>&gt;2,700 psi</td>
</tr>
<tr>
<td>Flexural Modulus, psi</td>
<td>ASTM D790</td>
<td>&gt;600,000 psi</td>
</tr>
<tr>
<td>Bond Strength Concrete</td>
<td>ASTM D7234</td>
<td>&gt;Tensile Strength of Concrete</td>
</tr>
<tr>
<td>Chemical Resistance to:</td>
<td>ASTM D543</td>
<td>Immersion Service</td>
</tr>
<tr>
<td>Wastewater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acids, 10%</td>
<td></td>
<td>Immersion Service</td>
</tr>
</tbody>
</table>

2.06 BRICK MATERIALS:

A. Brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture, and satisfactory to the Engineer. Bricks shall comply with ASTM C32, for Grade SS, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight.

B. Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.

C. Mortar shall be composed of Portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as directed and may vary from 1:1/4 for dense hard-burned brick to 1:3/4 for softer brick. In general, mortar for Grade SS Brick shall be mixed in the volume proportions of 1:1/2:4-1/2; Portland cement to hydrated lime to sand.

D. Cement shall be Type II Portland cement as specified for concrete masonry.

E. Hydrated lime shall be Type S conforming to ASTM C207.

F. Sand shall comply with ASTM C144 specifications for “Fine Aggregate,” except that all of the sand shall pass a No. 8 sieve.
2.07 CONCRETE:
   A. Cement shall be domestic Portland cement conforming to ASTM C150, Type II.
   B. Fine aggregate shall be washed natural sand conforming to ASTM C33.
   C. Coarse aggregate shall be well graded crushed stone conforming to ASTM C33, size No. 67.
   D. No admixtures shall be used unless approved by the Engineer in writing.

2.08 WATER:
   Water used in mixing shall be potable.

2.09 DELIVERY, STORAGE, AND HANDLING:
   A. Materials shall be delivered to the site in the Manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
   B. All materials shall be stored properly and in accordance with Manufacturer’s instructions.

PART 3 - EXECUTION

3.01 SAMPLING AND TESTING OF LINER:
   A. The Owner reserves the right to test all materials.
   B. Products that fail to meet the requirements of these specifications shall not be incorporated in the work.

3.02 SURFACE PROTECTION:
   A. During progress of work, where appearance is important, adjacent areas or grounds which may be permanently discolored, stained, or otherwise damaged by dust and rebound, shall be adequately protected and, if contacted, shall be cleaned by early scraping, brushing or washing, as the surroundings permit.
   B. No street markings shall be removed or covered throughout the progress of work.
3.03 EXISTING FLOWS:

The Contractor shall divert flows as required for the work and in accordance with the requirements specified in Section 01575, HANDLING EXISTING FLOWS.

3.04 CEMENTITIOUS LINING:

A. Preparation

1. Remove all foreign material from the manhole wall and bench using a high-pressure water spray (minimum 5,000 psi). Loose and protruding brick, mortar, and concrete shall be removed using a mason’s hammer and chisel and/or scraper. Fill any large voids with quick-setting patching mix. Surfaces to be repaired shall be clean and free of loose materials. Additional surface preparation shall be as recommended by the manufacturer of the materials to be applied.

2. Leaks shall be stopped using a chemical grout, which shall be applied as per the manufacturer’s recommendations. Leaks may require weep holes drilled at the manhole base to localize the infiltration during the application, after which the weep holes shall be sealed with a chemical grout and plugged with the quick-setting infiltration control mix prior to the final liner application. Areas with evidence of previous leakage (e.g., mineral deposits) shall also be grouted.

B. Invert Sealing

1. The Contractor shall carry out all work as described in the Performance Specification Guideline for Manhole Rehabilitation, Section 3.2C (NASSCO) using sealing materials and procedures accepted by the Engineer.

2. Grout ports shall be located and drilled in the bench and invert as necessary to seal the invert and manhole base. Grout ports shall also be located and drilled at the manhole/pipe connections.

3. A quick setting patch mix shall be troweled uniformly not to exceed ½-inch, onto the damaged invert extended out onto the base of the manhole sufficiently to tie into the structurally enhanced monolithic liner to be applied.
C. Exterior Grouting

1. For precast manholes, grout ports shall be located two (2) feet (maximum) around the circumference of the manhole, approximately one (1) foot below and one (1) foot above each joint to seal all joints. Additional grout ports shall be located so as to seal any other defects not occurring at a joint.

2. For brick/block manholes, grout ports shall be located and drilled at 90-degree intervals and every two (2) vertical feet (maximum) around the circumference every two (2) feet (maximum) of the manhole to ensure proper grouting of the soil outside the manhole.

3. The Contractor shall prohibit debris from entering the invert by either covering the invert or plugging during application.

4. The chemical sealing material used shall be as described in chemical sealing (grouting) materials of the Performance Specification for Manhole Rehabilitation (NASSCO).

D. Interior Sealing

1. Interior lining of the manholes shall be conducted only after all other manhole rehabilitations have been completed.

2. Unless otherwise indicated herein, the Contractor shall carry out all work as described in the Performance Specification Guideline for Manhole Rehabilitation, Section 3.2 (NASSCO) using lining materials and procedures accepted by the Engineer.

3. Preparation, as described in section 3.05A, shall be completed prior to the placement of the cementitious liner.

4. Sealant shall not be placed on a frozen surface or during freezing weather. Sealant shall not be placed when it is anticipated that the temperature during the following 24 hours will drop below 32 degrees, Fahrenheit.

5. Pipes and/or service connections shall be temporarily plugged prior to the application of the cementitious manhole interior liner. A flash coat of the liner material shall be applied three (3) inches into each service connection. Temporary plugs shall be removed once the liner has cured sufficiently to prevent erosion of the new liner.

6. Thickness shall be verified with a wet gauge at random points of the new interior surfaces as required by the Engineer. Minimum thickness of one-half (½) inch is required.
7. Application shall be with low velocity, continuous flow equipment to prevent the adverse effects of rebound. A smooth trowel finish shall be applied.

8. The Contractor shall prohibit debris from entering the invert by either covering the invert or plugging during application.

E. Digital Photographs

1. The Contractor shall take a digital photograph of the interior of each manhole, before and after rehabilitation, in JPEG format. Filenames shall contain subarea and manhole designations (e.g. “G-05A-001”). Digital photographs shall have a minimum resolution of four (4) megapixels.

3.05 EPOXY LINER:

A. The application of an epoxy liner to the interior of the sewer manholes shall be conducted only after all other manhole rehabilitations have been completed. When the epoxy lining is applied over the cementitious mortar, as indicated on the contract drawings, the epoxy shall form an interlocking bond to the cementitious mortar and conform to the manufacturer’s specifications to prevent delaminating powders forming during hydration. To allow for adequate curing of the cementitious lining, a minimum of twenty four (24) hours shall elapse between the application of the cementitious mortar and the epoxy lining.

B. Unless otherwise indicated herein, the Contractor shall carry out all work as described in the current edition of the PROTECTION OF UNDERGROUND CONCRETE AND MASONRY STRUCTURES AND MANHOLES (As provided by Raven Lining Systems) of NASSCO Recommended Specifications for Sewer Collection System Rehabilitation using lining materials and procedures accepted by the Engineer.

C. The manhole surface must be clean and structurally sound prior to the application of the epoxy liner. Surfaces must be entirely free of oil, grease, paint, detergent, rust, surface water, or other surface contaminants. After the cementitious mortar has been applied to the manhole, and more that 24-hours has elapsed, the Engineer shall determine if the surface is properly prepared for the application of the epoxy liner. The Engineer may require the Contractor to perform an additional pressure wash of the manhole, without harming the cementitious liner, to reach optimal surface conditions for the epoxy liner. All pressure washing shall be completed at no additional cost to the Owner.

D. The epoxy liner shall not be placed on a frozen surface or during freezing weather. The epoxy coating materials are to be stored and applied between 50 degrees, Fahrenheit and 90 degrees, Fahrenheit and shall be handled in accordance to their material data sheets.
E. Pipes and/or service connections shall be temporary plugged prior to the application of the epoxy interior liner. Temporary plugs shall be removed once the liner has cured sufficiently to prevent erosion of the new liner.

F. Application procedures shall conform to the epoxy coating manufacturer, including material handling, mixing, environmental controls during application, safety, and spray equipment. The spray equipment shall be specifically designed to accurately ratio and apply the specified epoxy coating materials.

G. Where indicated on the drawings, specified surfaces shall be sprayed with the epoxy coating to achieve a void free film consisting of one (1) coat wet film thickness of 100 mils. During the application a wet film thickness gauge meeting ASTM D4414 shall be used to ensure a monolithic coating and uniform thickness during the application.

H. After the epoxy coating has set hard to the touch, it shall be inspected with high-voltage holiday detection equipment. An induced holiday shall be made onto the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of minimum film thickness applied but may be adjusted as necessary to detect the induced holiday. All detected holidays shall be marked and repaired by abrading the coating surface with grit paper or other hand tooling methods. After abrading and cleaning, additional epoxy coating material can be hand applied to the repair area. All touch-up procedures shall follow the epoxy coating manufacturer’s recommendations.

I. A final visual inspection shall be made by the ENGINEER and the CONTRACTOR. Any deficiencies in the finished coating shall be marked and repaired.

J. The Contractor shall prohibit debris from entering the invert by either covering the invert or plugging during application.

K. Epoxy coated structures shall be allowed to cure for a minimum of three (3) days prior to reinstating sewer service.

3.06 BUILD MANHOLE INVERT AND BENCH:

A. Existing manhole bench and invert (including debris, deteriorated brick, block, and mortar) shall be removed and disposed of.

B. Bricks shall be moistened by suitable means, as directed, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

C. Each brick shall be laid as a header in a full bed and joint of mortar without requiring subsequent grouting, flushing or filling, and shall be thoroughly bonded as required.
D. Channels and shelves shall be constructed of brick and concrete as shown on the Drawings. The brick lined channels shall correspond in shape with the lower half of the pipe. The top of the shelf shall be set at the elevation of the crown of the highest pipe and shall be sloped 1 inch per foot to drain toward the flow through channel. Brick surfaces exposed to sewage flow shall be constructed with a nominal 2-inch by 8-inch face exposed (i.e. bricks on edge).

3.07 FIELD TESTING/INSPECTION:

A. Prior to the expiration of the warranty period, the Contractor shall inspect each of the sewer manholes rehabilitated during this project in accordance with the Performance Specification Guideline for Manhole Rehabilitation (NASSCO) at a timetable to be approved by the Engineer. The Contractor shall repair any defects found until there are no visible leaks.

B. If the groundwater level is not, in the opinion of the Engineer, high enough for an accurate visual inspection, the Contractor shall test a 50% sample of the original manhole rehabilitation work using exfiltration or vacuum methods as described in ASTM C-1244. The manholes in the test sample will be selected and approved by the Engineer and will consist of manholes from throughout the project area that are representative of the manhole rehabilitation work originally performed. Any manholes failing the warranty test shall be sealed and retested until the test is passed and/or the results are satisfactory to the Engineer.

C. If the initial failure rate of tested manholes is less than 5%, the work will be considered satisfactory and no further testing will required.

D. If the failure rate in the initial test sample equals or exceeds 5%, an additional and equivalent test sample of the original manhole rehabilitation work will be selected and approved by the Engineer. Additional test samples shall be taken until the failure rate of less than 5% is met. No previously tested manholes can be included in a subsequent test sample.

E. Should all of the manhole rehabilitation work fail to meet the less than 5% failure rate in each of the 50% test samples, the Contractor will be required to repeat the inspection procedure following resealing of the structures in question.

F. All inspecting, testing, and reworking within the warranty period shall be provided at no additional cost to the Owner.

END OF SECTION
SECTION 02437
SEWER LINE CHEMICAL ROOT TREATMENT

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers chemical root treatment of sewer lines as called for herein and on the drawings. The work includes furnishing all equipment, material and labor required to perform the services described herein.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS
B. Section 00890, PERMITS
C. Section 01014, SCOPE AND SEQUENCE OF WORK
D. Section 01330, SUBMITTALS
E. Section 01331, DOCUMENTATION
F. Section 01575, HANDLING EXISTING FLOWS
G. Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

   The National Association of Sewer Service Companies (NASSCO)
   Sewer Line Chemical Root Control – Technical Specifications (Duke’s Root Control)
   Foaming Root Control Herbicide – Technical Specifications (Vaporooter)
1.05 SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, chemical root treatment of the specified lengths of pipe shall be carried out in accordance with Foaming Root Control Herbicide – Technical Specifications (Vaporooter) of the NASSCO Specification Guidelines.

B. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning the work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the work.

2. Description of system proposed for handling existing flows, if necessary, during the procedures to be carried out.

3. Description of the system, equipment and material proposed for root treatment and cleaning of the pipe, including MSDS Data Sheets for all chemicals intended to be used.

4. Manufacturer’s warranty.

5. Copy of MWRA Root Control Request Permit in accordance with Section 00890, PERMITS.

B. Refer to Section 01331, DOCUMENTATION, for required documentation to be submitted.

1.07 WARRANTY:

A. The Contractor shall provide a written guarantee that meets or exceeds any claims or warranties made by the manufacturer in published advertising. As a minimum, the Contractor shall guarantee that, prior to scheduled cleaning, virtually all root tissue present in the sewer pipe will be dead or unable to sustain life.

PART 2 - PRODUCTS

2.01 ROOT TREATMENT MATERIALS:

A. The chemical root treatment material shall be EPA registered and labeled for use in sewer lines and acceptable to the state agencies having jurisdiction over its use. The Contractor shall submit a specimen product label of the material to be used in chemical root treatment to the Engineer. The chemical root treatment material shall not permanently affect parts of trees distant from the treated roots.
B. Materials shall meet the requirements of the Foaming Root Control Herbicide – Technical Specifications (Vaporooter) of the NASSCO Specification Guidelines.

PART 3 - EXECUTION

3.01 ROOT TREATMENT:

A. The Contractor shall carry out all preparatory work, including flow control, and apply root treatment as described in the Foaming Root Control Herbicide – Technical Specifications (Vaporooter) of the NASSCO Specification Guidelines, using treatment materials accepted by the Engineer.

3.02 ROOT CLEANING:

A. Root cleaning shall be carried out under Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

3.03 MWRA ROOT/VEGETATION CONTROL REQUIREMENTS:

A. The discharge from chemical root/vegetation control as part of a sewer rehabilitation project, into the MWRA system is prohibited, unless authorized by the MWRA in advance. Wastewater discharge from root/vegetation control into a pipeline must comply with MWRA Sewer Use Regulations, 360 CMR 10.021 through 10.024 prior to mixing with any other streams.

B. The Contractor shall be responsible to complete and submit a MWRA “Request to Conduct a Root Control Project” Form. The Contractor shall obtain authorization at least thirty (30) days prior to discharging. Any treatment testing or disposal of root/vegetation control water shall be the responsibility of the Contractor and at no additional cost to the Owner.

C. The Contractor shall provide a signed copy of the approved MWRA Root Control Questionnaire to the Engineer prior to any root treatment.

END OF SECTION
SECTION 02440

SEWER CLEANING, INSPECTION, TESTING AND SEALING

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This section covers cleaning, inspection, testing and sealing of pipelines as called for herein and on the drawings. The work includes furnishing all equipment, material and labor required to perform the services described herein. The sewer lines were previously cleaned and televisied. The television inspection logs are included as Appendix B for reference.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS
B. Section 01014, SCOPE AND SEQUENCE OF WORK
C. Section 01330, SUBMITTALS
D. Section 01331, DOCUMENTATION
E. Section 01575, HANDLING EXISTING FLOWS
F. Section 02428, CURED-IN-PLACE PIPE
G. Section 02429, CURED-IN-PLACE SHORT LINER
H. Section 02443, SERVICE CONNECTION REHABILITATION

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workers and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:
1.05 SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, the pipe cleaning, inspection, testing and sealing of the specified length of pipe shall be carried out in accordance with Section 3, Execution, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts). Sewer flow control shall comply with Section 01575, HANDLING OF EXISTING FLOWS. Sealing materials shall comply with Part 2, Products, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

B. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the work.

2. Description of system proposed for handling existing flows during the various procedures to be carried out.

3. Description of the system and equipment proposed for cleaning the pipe.

4. Description of the equipment and system proposed for inspecting the pipe after cleaning.

5. Description of the equipment and system proposed for testing the joints.

6. Description of the equipment, the sealing compound and the system proposed for sealing selected joints and circular cracks.
7. Manufacturer’s warranty.

8. Submit MSDS for the sealing compound to be used.

B. Refer to Section 01331, DOCUMENTATION for required documentation to be submitted.

1.07 WARRANTY:

A. The joint and circular crack sealing shall be warrantied for one year after the project is accepted by the Owner.

PART 2 - PRODUCTS

2.01 CLEANING AND SEALING MATERIALS:

A. The Contractor shall use a chemical grout which is environmentally safe for the sealing of sewers. The chemical sealing materials shall be in accordance with Part 2, Products, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts). All other products used for sealing, patching and cleaning of sewers shall also be environmentally safe.

B. The chemical sealing material shall be EPA registered and labeled for use in sewer lines and acceptable to the State Agencies having jurisdiction over its use.

C. The Contractor shall submit MSDS data sheets for all materials used.

PART 3 - EXECUTION

3.01 PIPE CLEANING:

A. Chemical root treatment, where required, shall be applied under Section 02437, SEWER LINE AND MANHOLE CHEMICAL ROOT TREATMENT before the cleaning operation is carried out. Sufficient time shall be allowed between the two operations as described in SEWER LINE CHEMICAL ROOT TREATMENT (FOAMING METHOD) of the NASSCO Standard Specifications.

B. The Contractor may elect to use either high velocity jet, or mechanically powered equipment, as described in the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts) and in the NASSCO Sewer Pipe Cleaning Specification guideline. Selection of equipment shall be based upon field conditions such as access to manholes, quantity of debris, size of sewer, depth of flow, etc.

C. All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed from the sewer and disposed of in accordance
with all applicable regulations and in a method acceptable to the Owner. Pipe cleaning shall be performed in advance of pipe television inspection.

D. The Contractor shall be responsible for the legal disposal of all debris removed from the sewers during the cleaning operation including any costs incurred. The Contractor shall not expect the Owner to provide a dump site.

E. Acceptance by the Engineer of the cleaning results will be based on the results of television inspection. If the results are unsatisfactory, the Contractor shall repeat the cleaning until accepted by the Engineer at no additional cost to the Owner.

3.02 PIPE INSPECTION:

A. Pipe shall be visually inspected by means of closed-circuit television. The television camera used for the inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture, with minimal reflective glare, for the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 400 line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer.

   1. Refer to Section 01331, DOCUMENTATION, in regard to external hard drives to be given to the Owner upon completion of project and before the project is accepted by the Owner.

B. The camera shall have a remote controlled, pan and tilt type lens and lighting system capable of turning perpendicular to the direction of flow and rotating 360 degrees while inside the pipe. The camera shall be able to view a minimum service connection length of 4 feet in order to determine whether the connection is active or inactive.

C. Electronic video equipment shall be capable of displaying and recording during the entire inspection, as a minimum, the following data for each sewer reach videotaped:

   1. Project identification
   2. Date recorded
   3. Sewer reach identification (street location, MH to MH)
   4. Footage counter

D. The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to ensure proper identification of the sewer's condition. Manual winches, power winches, television cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. If, during the inspection operation the television camera will not pass through the entire sewer section, the Contractor shall re-set his equipment in a manner so that the inspection can be performed from the opposite manhole.
E. Flow control shall be in accordance with Section 01575, HANDLING OF EXISTING FLOWS.

F. Standing water within a sagging pipe shall be removed so that the pipe can be adequately television inspected. A minimum of 80% of the pipe shall be visible before television inspection.

G. Removal of obstruction caused by protruding taps shall be in accordance with Section 02443, SERVICE CONNECTION REHABILITATION.

H. Television inspection shall be performed in advance of pipe joint testing, sealing, pipe repair and pipe lining activities.

3.03 EQUIPMENT TESTING:

A. The Contractor shall perform an above ground demonstration test in a test cylinder with the same diameter as the proposed pipe being tested to simulate a pipe leak. The setup shall have a valve and pressure gauge to simulate leaks and monitor pressure. The tests shall be performed in accordance with ASTM F 2304, Standard Practice for Rehabilitation of Sewers Using Chemical Grouting, Section 11.4.1, Control Testing.

B. The pressure displayed by the testing equipment shall be within ±0.5 psi of the gauge pressure to pass successfully. The void pressure should drop to within ±0.5 psi of the pre-test pressure displayed by the testing equipment after the pressure is released to pass successfully. Test pressures shall be between 7 and 10 psi.

C. If the demonstration test cannot be performed successfully, the contractor shall repair or modify the equipment and perform the test again until the test is passed.

D. The Contractor shall perform the demonstration test for each chemical sealing unit prior to the equipment being used on the Project. Additional tests may be required by the Engineer at various times during the Project.

3.04 PIPE TESTING:

A. Testing of pipe joints or circular cracks to identify joints or circular cracks that are defective and that can be successfully sealed by the internal pipe joint sealing process, shall be in accordance with Section 3.6, Joint Testing Procedure for Mainline Sewer and Laterals Connected to Manholes, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts). The test medium may be liquid or gas, at the Contractor's option. Test pressure used shall be acceptable to the Engineer.

B. The allowable pressure drop shall be 0.5 pounds in 15 seconds at a pressure greater than ½ pounds per vertical foot of pipe cover, or 4 pounds minimum.
C. Electronic video equipment shall be capable of displaying and recording, at a minimum the following data for each pipe joint:

1. Project Identification
2. Date Recorded
3. Footage counter
4. Test Pressure
5. Sewer Reach Identification (Street, location, start MH and second MH).

3.05 PIPE SEALING:

A. Pipe joints and circular cracks to be sealed shall be designated by the Engineer and shall be sealed in accordance with the procedures described in Section 3.9, Pipe Joint Sealing by Packer Injection Grouting for Mainline Sewers and Laterals Connected to Manholes, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts). The chemical sealing materials used shall be as described in Part 2, Products, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

3.06 FIELD TESTING/INSPECTION:

A. Prior to the expiration of the warranty period, an initial test sample of approximately 25% of the linear feet of the total project will be selected and approved by the Engineer. The test sample will consist of manhole-to-manhole segments from throughout the project area that are representative of the sealing work originally performed. The Contractor shall television inspect and test all previously sealed joints and circular cracks within the initial test sample as specified in paragraphs 3.02 and 3.04 of this Section. Any joints or circular cracks failing the test shall be resealed as specified in paragraph 3.05 of this Section.

B. If the failure rate of retested joints and circular cracks is less than 5% of the previously sealed locations, the work will be considered satisfactory and no further testing will be required.

C. If the failure rate in the initial test sample of the tested joints and circular cracks equals or exceeds 5%, an additional and equivalent test sample of 25% of the linear feet of the total project will be selected and approved by the Engineer. Additional warranty test samples will be tested and resealed as necessary until the failure rate of less than 5% is met. No previously tested segments can be included in a subsequent test sample.

D. Should the total project area fail to meet the less than 5% failure rate in each of the four 25% test samples, the Contractor will be required to repeat the inspection procedure.

E. Testing and resealing of sealed joints and circular cracks shall be performed prior to the expiration of the warranty period, during periods of high groundwater, and at a time to be approved by the Engineer.
F. All inspecting, testing and resealing within the warranty period shall be provided at no additional cost to the Owner.

END OF SECTION
SECTION 02443

SERVICE CONNECTION REHABILITATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the rehabilitation of service connections, including cutting of protruding services, television inspection and testing of services, and grouting of services as called for herein and on the drawings. The work includes furnishing all equipment, material and labor required to perform the services described herein.

1.02 RELATED WORK:

A. Section 00331, TELEVISION AND MANHOLE INSPECTION LOGS
B. Section 01014, SCOPE AND SEQUENCE OF WORK
C. Section 01330, SUBMITTALS
D. Section 01331, DOCUMENTATION
E. Section 01575, HANDLING EXISTING FLOWS
F. Section 02428, CURED-IN-PLACE PIPE
G. Section 02429, CURED-IN-PLACE SHORT LINER
H. Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING

1.03 QUALITY ASSURANCE:

A. The work described herein shall be performed by a company with not less than five (5) years of experience in providing the required services, employing experienced workmen and experienced supervisory personnel. Supervisory personnel shall have not less than three (3) years of experience in providing the required services and shall be present at the jobsite during all work related to the required services.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

The National Association of Sewer Service Companies (NASSCO)

Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts)
American Society of Testing and Materials (ASTM)


1.05 SYSTEM DESCRIPTION:

A. Unless otherwise indicated herein, service connection rehabilitation shall be carried out in accordance with Lateral Connection Sealing from the Mainline by Packer Injection Grouting, Section 3.10, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

B. The Contractor may propose alternative processes and/or products for review and approval by the Engineer.

C. The location of the service connection rehabilitations are indicated on the drawings.

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Prior to beginning the work, submit six (6) sets of the following:

1. Qualifications of the firm/personnel who will perform the work.

2. Descriptions of system proposed for handling existing flows, if necessary, during the procedures to be carried out.

3. Description of the system, equipment and material proposed for the service connection rehabilitations.

4. Manufacturer’s warranty.

5. Submit MSDS Data Sheets for proposed chemicals to be used.

B. Refer to Section 01331, DOCUMENTATION, for documentation required to be submitted.

1.07 WARRANTY:

A. The service connection rehabilitations shall be warrantied against infiltration and faulty workmanship and materials for one year from the date the project is accepted by the Owner.
2.01 CHEMICAL GROUT:
   A. The Contractor shall use chemical grout which is environmentally safe for the sealing of sewers. The chemical sealing materials shall be used in accordance with Part 2, Products, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts). All other products used for sealing, patching and cleaning of sewers shall also be environmentally safe.
   B. The chemical grout material shall be EPA registered and labeled for use in sewer lines and acceptable to the state agencies having jurisdiction over its use.

3.01 PIPE CLEANING AND INSPECTION:
   A. Pipe cleaning and inspection shall be carried out in accordance with Section 02440, SEWER CLEANING, INSPECTION, TESTING AND SEALING.

3.02 FLOW CONTROL:
   A. Flow control, if required, shall be in accordance with Section 01575, HANDLING EXISTING FLOWS.

3.03 CUTTING OF PROTRUDING SERVICE CONNECTIONS:
   A. The Contractor shall cut protruding service connections where called for on the drawings. The protruding services shall be cut flush with the wall of the sewer, using either a lateral cutter or grinder.
   B. After the protruding services are cut, the service connections shall be grouted in accordance with paragraph 3.06 of this Section. No additional payment shall be made for grouting service connections.

3.04 EQUIPMENT TESTING:
   A. The Contractor shall perform an above ground demonstration test in a test cylinder with the same diameter as the proposed pipe being tested to simulate a pipe leak. The setup shall have a valve and pressure gauge to simulate leaks and monitor pressure. The tests shall be performed in accordance with ASTM F2454, Standard Practice for Sealing Lateral Connections and Lines from the Mainline Sewer Systems by the Lateral Packer Method, Using Chemical Grouting, Section 11.3.3, Initial Testing.
   B. The pressure displayed by the testing equipment shall be within ±0.5 psi of the gauge pressure to pass successfully. The void pressure should drop to within ±0.5 psi of the
pre-test pressure displayed by the testing equipment after the pressure is released to pass successfully. Test pressures shall be between 7 and 10 psi.

C. If the demonstration test cannot be performed successfully, the Contractor shall repair or modify the equipment and perform the test again until the results are satisfactory to the Engineer.

D. The Contractor shall perform the demonstration test for each chemical sealing unit prior to the equipment being used on the Project. Additional tests may be required by the Engineer at various times during the Project.

3.05 TELEVISION INSPECTION AND TESTING OF SERVICE CONNECTIONS:

A. The Contractor shall television inspect and test service connections where called for on the drawings. Television inspection of services shall utilize a pan and tilt camera which shall inspect a minimum of 4 feet of the service connection from the main sewer.

B. Pressure Testing: Air testing is accomplished by isolating the area to be tested with the packer and applying positive pressure into the isolated VOID area. VOID area shall include a minimum 3 feet of service connection pipe.

C. Pressure testing shall be carried out in accordance with Section 3.7, Lateral Connection Testing Procedure, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

D. The television inspection and testing equipment shall be capable of inspecting and testing 4-inch, 5-inch and 6-inch diameter service connections.

E. If the service fails the pressure test, the service shall be grouted in accordance with paragraph 3.06 of this Section. If the service passes the pressure test, grouting is not required.

3.06 GROUTING OF SERVICE CONNECTIONS:

A. The Contractor shall grout service connections where indicated on the drawings or when a service fails the pressure test, as described in paragraph 3.05 of this Section. The Contractor shall grout all service connections reinstated as described in Section 02428, CURED-IN-PLACE PIPE or Section 02429, CURED-IN-PLACE SHORT LINER, regardless of the results of the pressure test. Grouting of service connections shall be carried out in accordance with Section 3.10, Lateral Connection Sealing from the Mainline by Packer Injection Grouting, of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

B. The grouting equipment shall be capable of grouting 4-inch, 5-inch and 6-inch diameter service connections.
C. The chemical sealing materials shall be as described in Part 2, Products of the NASSCO Suggested Standard Specification for Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections (Using the Packer Method with Solution Grouts).

D. If a service connection becomes clogged with grout, the Contractor shall clear the grout from the lateral. This work shall be done at no additional cost to the Owner.

3.07 FIELD TESTING/INSPECTION:

A. Prior to the expiration of the warranty period, an initial test sample of approximately 25% of the original service connection rehabilitation work will be selected and approved by the Engineer. The test sample will consist of manhole sections from throughout the project area that are representative of the sealing work originally performed. The Contractor shall television inspect and test all previously grouted service connections within the initial test sample as specified in paragraph 3.05 of this Section. Any service connections failing the retest shall be regruotted as specified in paragraph 3.06 of this Section.

B. If the failure rate in the initial test sample is less than 5%, the work will be considered satisfactory and no further testing will be required.

C. If the failure rate in the initial test sample equals or exceeds 5%, an additional and equivalent test sample will be selected and approved by the Engineer. Additional test samples will be tested and resealed as necessary until the failure rate of less than 5% is met. No previously tested service connections can be included in a subsequent warranty test sample.

D. Should all of the original service connection rehabilitation work fail to meet the less than 5% failure rate in each of the 25% test samples, the Contractor will be required to repeat the inspection procedure.

E. Any remaining service connection rehabilitation work not television inspected and tested as part of a test sample shall be television inspected. The Contractor shall repair any defects found and shall regroup the services until there are no visible leaks through television inspection.

F. Television inspecting, testing, and regriouting of service connections shall be performed prior to the expiration of the warranty period, during periods of high groundwater and at a time to be approved by the Engineer.

G. All inspecting, retesting, and regrouping within the warranty period shall be provided at no additional cost to the Owner.

END OF SECTION
SECTION 02538

REBUILD SANITARY SEWER MANHOLE BENCH AND INVERT

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers manholes benches and inverts complete, including, but not limited to, bases, mortar, benches and inverts.

1.02 RELATED WORK:

A. Section 01014, SCOPE AND SEQUENCE OF WORK

B. Section 01330, SUBMITTALS

C. Section 01301, DOCUMENTATION

D. Section 01575, HANDLING EXISTING FLOWS

1.03 SYSTEM DESCRIPTION:

A. Invert channel and bench shall be formed of brick and mortar upon the base.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM C32</td>
<td>Sewer and Manhole Brick</td>
</tr>
<tr>
<td>ASTM C144</td>
<td>Aggregate for Masonry Mortar</td>
</tr>
<tr>
<td>ASTM C207</td>
<td>Hydrated Lime for Masonry Purposes</td>
</tr>
<tr>
<td>ASTM C923</td>
<td>Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes</td>
</tr>
<tr>
<td>ASTM C1244</td>
<td>Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test</td>
</tr>
</tbody>
</table>
1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Six sets of manufacturer literature of the materials of this section shall be submitted to the Engineer for review.

B. Tests reports as required shall be submitted to the Engineer.

PART 2 – PRODUCTS

2.01 The bench and invert shall be formed of brick and mortar, as specified in this specification section.

2.02 BRICK MATERIALS:

A. Brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture, and satisfactory to the Engineer. Bricks shall comply with ASTM C32, for Grade SS, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight.

B. Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.

C. Mortar shall be composed of portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as required and may vary from 1:1/4 for dense hard-burned brick to 1:3/4 for softer brick. In general, mortar for Grade SS Brick shall be mixed in the volume proportions of 1:1/2:4-1/2; portland cement to hydrated lime to sand.

D. Cement shall be Type II portland cement as specified for concrete masonry.

E. Hydrated lime shall be Type S conforming to ASTM C207.

F. The sand shall comply with ASTM C144 specifications for "Fine Aggregate," except that all of the sand shall pass a No. 8 sieve.

PART 3 - EXECUTION

3.01 SAFETY:

The Contractor shall perform all work in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements regarding confined space entry.
3.02 INSTALLATION:

A. Bench and Invert Brick Work

1. All debris and deteriorated brick, block, and mortar shall be removed from the bottom of the manhole before the bench and invert are rebuilt.

2. Bricks shall be moistened by suitable means, as required, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

3. Each brick shall be laid as a header in a full bed and joint of mortar without requiring subsequent grouting, flushing or filling, and shall be thoroughly bonded as required.

4. The brick bench and invert shall conform accurately to the size of the manhole and adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipe.

3.03 CLEANING:

All manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection.

END OF SECTION
SECTION 02745

PAVING

PART 1 - GENERAL

1.01 WORK INCLUDED:

The Contractor shall furnish all labor, materials and equipment and shall replace the pavement as indicated on the drawings and as herein specified.

Due to the significant variations in asphalt prices this contract includes a price adjustment as described in Section 01270, MEASUREMENT AND PAYMENT.

1.02 RELATED WORK:

A. Section 00890, PERMITS

B. Section 02300, EARTHWORK

1.03 SYSTEM DESCRIPTION:

A. GENERAL

The types of pavement systems to be utilized on this project are as follows:

TYPE 1. PERMANENT TRENCH PAVEMENT

PAVEMENT SCHEDULE

B. TYPE 1. PERMANENT TRENCH PAVEMENT

Areas shall be paved with temporary trench binder course pavement, 2 inches thick, as soon as practicable after installation of individual pipeline segments. Temporary pavement shall be maintained a minimum of 90 days prior to installation of permanent trench binder course pavement, 2 inches thick and permanent trench top course pavement, 1-1/2 inches thick. This may require that the temporary pavement be maintained until the following year, at which time the permanent pavement shall be installed. Permanent trench binder course and trench top course pavement shall be installed only with the approval of the Engineer.
1.04 REFERENCES

The following standards form a part of these specifications and indicate the minimum standards required:

American Society for Testing and Materials (ASTM)

ASTM D1557 Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 Pound Rammer and 18-Inch Drop

Massachusetts Department of Transportation (MassDOT)

Standard Specifications for Highways and Bridges

MassDOT 403 Reclaimed Base Course
MassDOT 405 Gravel Base Course
MassDOT 420 Hot Mix Asphalt Base Course
MassDOT 460 Hot Mix Asphalt Pavement
MassDOT 476 Cement Concrete Pavement
MassDOT 860 Reflectorized Pavement Markings

Federal Specifications

SS-S-1401 Sealants, Joint, Non-Jet-Fuel-Resistant, Hot Applied, for Portland Cement and Asphalt Concrete Pavement

AASHTO Standard Specifications for Materials and Methods of Sampling and Testing

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

Six sets of complete job mix formula shall be submitted to the Engineer at least two weeks before any of the work of this section is to begin.

PART 2 - PRODUCTS

2.02 GRAVEL SUBBASE:

A. Gravel subbase shall consist of inert material that is hard durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials.

B. Gradation requirements for gravel subbase shall be as specified in Section 02300, EARTHWORK for Gravel Borrow.
2.03 **RECLAIMED SUBBASE:**

A. Reclaimed subbase shall consist of crushed asphalt pavement, crushed cement concrete, and gravel borrow (as specified in paragraph 2.02) uniformly pre-mixed.

B. Reclaimed subbase mixtures shall be within the composition limits in accordance with MassDOT M1.11.0, with constituents that conform to Table A, below.

C. The approved source of reclaimed pavement borrow material shall be processed by mechanical means. The equipment for producing crushed material shall be of adequate size and with sufficient adjustments to produce the desired materials. The processed material shall be stockpiled in such a manner as to minimize segregation of particle sizes. All reclaimed pavement borrow material shall come from approved stockpiles.

2.04 **HOT MIX ASPHALT PAVEMENT:**

A. Pavements shall consist of hot mix asphalt.

B. Pavement mixtures shall be within the composition limits of base courses, binder courses, top courses and surface treatment, in accordance with MassDOT M3.11.03, with constituents that conform to Table A, below.

### TABLE A

**PERCENT BY MASS PASSING SIEVE DESIGNATION**

<table>
<thead>
<tr>
<th>Standard Sieves (in.)</th>
<th>Reclaimed Subbase</th>
<th>Base Course</th>
<th>Binder Course</th>
<th>Top Course</th>
<th>Mod. Top Course</th>
<th>Surface Treat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 in</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 in</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1/2 in</td>
<td>70-100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 in</td>
<td></td>
<td>57-87</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>¾ in</td>
<td>50-85</td>
<td></td>
<td>80-100</td>
<td>95-100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/8 in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>½ in</td>
<td>40-65</td>
<td>55-75</td>
<td>95-100</td>
<td>79-100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8 in</td>
<td></td>
<td></td>
<td>80-100</td>
<td>68-88</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>No.4</td>
<td>30-60</td>
<td>20-45</td>
<td>28-50</td>
<td>50-76</td>
<td>48-68</td>
<td>80-100</td>
</tr>
<tr>
<td>No.8</td>
<td>15-33</td>
<td>20-38</td>
<td>37-49</td>
<td>33-46</td>
<td>64-85</td>
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<tr>
<td>No.16</td>
<td></td>
<td></td>
<td>26-40</td>
<td>20-40</td>
<td>46-68</td>
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</tr>
<tr>
<td>No.30</td>
<td>8-17</td>
<td>8-22</td>
<td>17-29</td>
<td>14-30</td>
<td>26-50</td>
<td></td>
</tr>
<tr>
<td>No.50</td>
<td>8-24</td>
<td>4-12</td>
<td>5-15</td>
<td>10-21</td>
<td>9-21</td>
<td>13-31</td>
</tr>
<tr>
<td>No.100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.200</td>
<td>0-10</td>
<td>0-4</td>
<td>0-5</td>
<td>2-7</td>
<td>2-6</td>
<td>3-8</td>
</tr>
<tr>
<td>Binder</td>
<td>4-5</td>
<td>4.5-5.5</td>
<td>5.6-7.0</td>
<td>5.1-6</td>
<td>7-8</td>
<td></td>
</tr>
</tbody>
</table>
Percentages shown for aggregate sizes are stated as proportional percentages of total aggregate for the mix.

Unless authorized by the Engineer, no Job-Mix Formula will be approved which specifies:

- More than 45% passing No. 8 for Top and Dense Binder Courses
- More than 38% passing No. 8 for Modified Top Course
- More than 55% passing No. 8 for Dense Mix
- Less than 4% passing No. 200 for Top Course.
- Less than 6% bitumen for Top Course.

C. The joint sealant shall be a hot poured rubberized emulsified asphalt sealant meeting the requirements of FS SS-S-1401.

D. The tack coat shall be an asphalt emulsion, RS-1 if required, conforming to MassDOT Section M3.03.0.

2.05 SEAL COAT:

A. Seal coats shall be within the composition limits for protective seal coat emulsion in accordance with MassDOT M3.03.3.

B. Silica sand when blended with seal coat emulsion shall be No. 30 silica sand.

2.06 PAVEMENT MARKINGS:

A. Pavement markings shall conform to the requirements of MassDOT 860.

B. The mixture of the marking material shall be within the composition limits for reflectorized pavement markings as described in the MassDOT Specifications as follows:

   1. Thermoplastic reflectorized pavement markings - M7.01.03/04.

C. Application of the glass beads to be used as reflector material on the striping shall conform to Sections 860.62 and M7.03.07 of the MassDOT Specifications.

2.07 PAINT FOR PARKING LOTS

A. Paint for parking lot lines shall conform to Federal Specification TT-P-115-E Type 1. Paint shall be 11-3 PPG Industries, Pittsburgh, PA or approved equal.
PART 3 - EXECUTION

3.01 GENERAL:

Paving courses required for the project shall be as shown on the drawings and as specified herein. Pavement thicknesses specified are measured in compacted inches. If a pavement course thickness exceeds 2-1/2 compacted inches, the course shall be installed in multiple lifts with each lift not exceeding 2-1/2 compacted inches in thickness.

3.02 STATE HIGHWAY TRENCH REPAIR:

Contractor shall construct and repair trenches in state highways in accordance with the state highway permit. Trench shall be backfilled with Controlled Density Fill or with earth, as stipulated in the permit and in Section 02300.

3.03 GRAVEL SUBBASE:

A. The gravel subbase to be placed under pavement shall consist of 12-inches of gravel evenly spread and thoroughly compacted.

B. The gravel shall be spread in layers not more than 4-inches thick, compacted measure. All layers shall be compacted to not less than 95 percent of the maximum dry density of the material as determined by ASTM D1557 Method C at optimum moisture content.

3.04 RECLAIMED SUBBASE:

A. The reclaimed borrow material to be placed under the pavement shall consist of 12-inches of reclaimed borrow material evenly spread and thoroughly compacted.

B. The reclaimed borrow material shall be spread and compacted in layers not exceeding 4-inches thick, compacted measure, except the last layer of reclaimed pavement borrow material shall be 2-inches thick, compacted measure. All layers shall be compacted to not less than 95 percent of the maximum dry density of the material as determined by ASTM D1557 Method C at optimum moisture content.

3.05 TEMPORARY BITUMINOUS PAVEMENT:

A. Where specified and required by the Engineer and after placement of the gravel subbase, the Contractor shall place temporary bituminous pavement above the trench, between the edges of the existing pavement. It shall consist of hot mix asphalt, 2-inches thick, in accordance with MassDOT 460.

B. The temporary pavement shall be repaired as necessary to maintain the surface of the pavement until replaced by permanent pavement. When so required by the Engineer, the Contractor shall remove the temporary pavement and install or regrade the subbase for installation of permanent pavement.
3.06 PERMANENT BITUMINOUS PAVEMENT:

A. The bituminous paving mixture, equipment, methods of mixing and placing, and the precautions to be observed as to weather, condition of base, etc., shall be in accordance with MassDOT 460.

B. BASE COURSE AND BINDER COURSE PAVEMENT:

1. Immediately prior to installing the base and/or binder course, the trimmed edges shall be made stable and unyielding, free of loose or broken pieces and all edges shall be thoroughly broomed clean. Contact surfaces of trench sides, curbs, manholes, catch basins, or other appurtenant structures in the pavement shall be painted thoroughly with a uniform coating of asphalt emulsion (tack coat), just before any mixture is placed against them.

2. The binder course shall be repaired as necessary to maintain the surface of the pavement until placement of the permanent overlay. If required, the Contractor shall place a leveling course before placing the permanent overlay.

C. TOP COURSE OR SURFACE TREATMENT PAVEMENT (PERMANENT OVERLAY):

1. Top course or surface treatment shall be placed over the trench or full width as shown on the drawings or as specified.

2. Prior to placement of the top course or surface treatment, the entire surface over which the top course or surface treatment is to be placed shall be broom cleaned and tack coated.

3. Top course or surface treatment pavement placed over trenches may be feathered to meet existing paved surfaces, if approved by the Engineer.

4. Prior to placing full width top course or surface treatment pavements, keyways shall be cut in all intersecting streets.

3.07 PAVEMENT PLACEMENT:

A. Unless otherwise permitted by the Engineer for particular conditions, only machine methods of placing the pavement shall be used. The equipment for spreading and finishing shall be mechanical, self-powered pavers, capable of spreading and finishing the mixture true to line, grade, width and crown. The mixtures shall be placed and compacted only at such times as to permit proper inspection and checking by the Engineer.
B. After the paving mixtures have been properly spread, initial and intermediate compaction shall be obtained by the use of steel wheel rollers having a weight of not less than 240 pounds per inch width of tread.

C. Final rolling of the top course or surface treatment pavement shall be performed by a steel wheel roller weighing not less than 285 pounds per inch width of tread at a mix temperature and time sufficient to allow for final smoothing of the surface and thorough compaction.

D. Immediately after placement of top course or surface treatment pavement, all joints between the existing and new top course or surface treatment pavements shall be sealed with hot poured rubberized asphalt joint sealant.

E. Where there is no backing for the edges of the curb-to-curb pavement, the Contractor shall provide a gravel transition. The gravel transition shall be installed immediately after the pavement is placed, shall be feathered and extend a minimum of 18-inches, and shall be compacted using the same equipment as for pavement compaction. The gravel shall be uniformly graded material with a maximum size of 3/8- to ½-inch.

F. When required by the Engineer, the Contractor shall furnish and install additional paving to provide satisfactory transition for driveways and walkways impacted by a new curb-to-curb pavement installation. The transition installation will be considered incidental to the curb-to-curb pavement installation.

3.08 ADDITIONAL PAVING:

A. If the Engineer determines that the existing bituminous concrete pavement on local streets is thicker than the permanent pavement specified herein, the Contractor may be required to install hot mix asphalt to obtain the depth of the existing pavement.

B. If for the installation of full width paving, the Engineer determines that the existing road surface requires additional leveling pavement, then the Contractor shall install additional hot mix asphalt to bring the section to proper line and cross section. Additional paving required to restore the proper line and cross section of binder course installed by the Contractor which has become rough and uneven shall be furnished and installed at the expense of the Contractor.

3.09 PARKING LOTS AND DRIVEWAYS:

A. Pavement shall consist of a 2-inch binder course and a 1-1/2-inch top course on a 12-inch gravel sub-base. All thicknesses are compacted thicknesses.

B. Adjacent concrete work, slate work, sidewalks, structures, etc., shall be protected from stain and damage during the entire operation. Damaged or stained areas shall be replaced or repaired to equal their original condition.

C. All joints between binder and top course shall be staggered a minimum of 6-inches.
D. After final rolling, no vehicular traffic of any kind shall be permitted on the pavement until it has cooled and hardened sufficiently to prevent distortion and loss of fines, and in no case in less than 6 hours.

E. Smoothness of all areas of the finished surface shall not vary more than 1/4-inch when tested with a 16 foot straight-edge, applied both parallel to and at right angles to the centerline of the paved area. At building entrances, curbs, and other locations where an essentially flush transition is required, pavement elevation tolerance shall not exceed plus or minus 1/8-inch. Irregularities exceeding these amounts, or which retain water on the surface, shall be corrected by removing the defective work and replacing or repairing it to the satisfaction of the Engineer.

F. The surface area to be seal coated, as shown on the drawings, shall be swept and air cleaned. The first coat shall be applied with eight (8) pounds of #30 silica sand blended with each gallon of emulsion applied at a rate of 0.15 gallons per square yard. The second coat shall be a straight sealer applied at the rate of 0.1 gallons per square yard.

G. The Contractor shall prepare the pavement surface for painting lines according to the recommendations of the paint manufacturer. Applied markings shall have clean-cut edges, true and smooth alignment and uniform film thickness of 15 mils, +/- 1.0. The Contractor shall be responsible for removing, to the satisfaction of the Engineer, tracing marks, and spilled paint applied in an unauthorized area.

3.10 RAISING AND ADJUSTING CASTINGS:

A. In areas of permanent top course paving, existing municipally-owned catch basin and manhole castings and valve boxes shall be raised to the proper grade where required by the Engineer.

B. Castings owned by private utilities shall be raised by their own forces. The Contractor shall be responsible for coordinating this work.

C. The method of adjusting these castings shall be as follows: Cut around catch basin or manhole castings a minimum of 8-inches from casting. Excavate and if required rebuild up to 12-inches of masonry below the bottom of the casting. Backfill with suitable material and compact to bottom of casting. Place high, early strength cement or bituminous concrete collar, as directed, to approximately 1½-inches below the raised casting grade. Masonry work shall conform to Section 02631, PRECAST MANHOLES AND CATCH BASINS.

D. In some areas, raising of castings may not be required. Where required by the Engineer, castings not to be raised shall have at least 12-inches of bituminous concrete pavement chipped and removed around the casting. New bituminous concrete pavement shall be placed and compacted around such castings to approximately 1-1/2-inches below the top of the casting. The overlay course shall then be sloped down to the level of the casting.

E. The method of raising valve boxes shall be as follows: Cut around valve box a minimum of 8-inches from valve box. Excavate as required and raise the valve box. Pour high
early strength cement or bituminous concrete collar, as directed, to approximately 1-1/2-inches below the top of the valve box.

F. Castings which need to be raised or adjusted to complete permanent curb to curb paving shall be done immediately prior to paving.

3.11 PAVEMENT MARKINGS:

A. The Contractor shall replace all pavement markings removed or covered-over in carrying out the work, and as required by the Engineer, no sooner than 48 hours after completion of permanent pavement. The markings shall be 4-inches wide, white or yellow, single or double lines as required.

B. When required by the Engineer, the Contractor shall provide temporary markings at no additional cost to the Owner.

3.12 PAVEMENT REPAIR:

A. If required in the contract or if permanent pavement becomes rough or uneven, permanent pavement patches and trenches shall be repaired and brought to grade utilizing "infrared" paving methods following completion of the construction.

B. The Contractor performing the work shall use care to avoid overheating the pavement being repaired.

C. Pavement repair shall extend a minimum of 6-inches beyond all edges of the pavement patch to assure adequate bonding at the pavement joints.

END OF SECTION
APPENDIX A

WAGE RATES
Phase II - Base Bid includes rehab of sewers includes CITS, manhole lining, root treatment, short liners and cured-in-place pipe. Alternate No. 1 includes rehabilitation of air release manholes.

Awarding Authority: City of Quincy

Contract Number: 

City/Town: QUINCY

Description of Work: Phase II - Base Bid includes rehab of sewers includes CITS, manhole lining, root treatment, short liners and cured-in-place pipe. Alternate No. 1 includes rehabilitation of air release manholes.

Job Location: Wollaston Beach Area

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker’s rate for the trade.
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at http://www.mass.gov/dols/pw.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Issue Date: 03/15/2018  Wage Request Number: 20180315-059
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For apprentice rates see "Apprentice- PILE DRIVER"

For apprentice rates see "Apprentice- LABORER"

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

For apprentice rates see "Apprentice- OPERATING ENGINEERS"
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For apprentice rates see "Apprentice - LABORER"

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For apprentice rates see "Apprentice - LABORER"

| BOILER MAKER BOILERMakers Local 29                | 01/01/2017  | $42.92 | $6.97  | $16.21  | $0.00 | $66.10     |

| Apprentice - BOILERMaker - Local 29               | 01/01/2017  |        |        |         |       |            |

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Notes:

Apprentice to Journeyworker Ratio: 1:5
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**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Quincy**

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**Notes:**

Apprentice to Journeyworker Ratio: 1:5

**BULLDOZER/GRADER/SCRAPER**

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**CAISSON & UNDERPINNING BOTTOM MAN**

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For apprentice rates see "Apprentice- LABORER"
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For apprentice rates see "Apprentice- LABORER"

| CAISSON & UNDERPINNING TOP MAN       | 12/01/2017     | $37.45    | $7.70  | $14.95  | $0.00                     | $60.10     |
| LABORERS - FOUNDATION AND MARINE     | 06/01/2018     | $38.40    | $7.70  | $14.95  | $0.00                     | $61.05     |
|                                      | 12/01/2018     | $39.35    | $7.70  | $14.95  | $0.00                     | $62.00     |
|                                      | 06/01/2019     | $40.35    | $7.70  | $14.95  | $0.00                     | $63.00     |
|                                      | 12/01/2019     | $41.35    | $7.70  | $14.95  | $0.00                     | $64.00     |
|                                      | 06/01/2020     | $42.34    | $7.70  | $14.95  | $0.00                     | $64.99     |
|                                      | 12/01/2020     | $43.32    | $7.70  | $14.95  | $0.00                     | $65.97     |
|                                      | 06/01/2021     | $44.34    | $7.70  | $14.95  | $0.00                     | $66.99     |
|                                      | 12/01/2021     | $45.35    | $7.70  | $14.95  | $0.00                     | $68.00     |

For apprentice rates see "Apprentice- LABORER"

| CARBIDE CORE DRILL OPERATOR          | 12/01/2017     | $37.75    | $7.70  | $14.75  | $0.00                     | $60.20     |
| LABORERS - ZONE 1                    | 06/01/2018     | $38.70    | $7.70  | $14.75  | $0.00                     | $61.15     |
|                                      | 12/01/2018     | $39.65    | $7.70  | $14.75  | $0.00                     | $62.10     |
|                                      | 06/01/2019     | $40.65    | $7.70  | $14.75  | $0.00                     | $63.10     |
|                                      | 12/01/2019     | $41.65    | $7.70  | $14.75  | $0.00                     | $64.10     |
|                                      | 06/01/2020     | $42.64    | $7.70  | $14.75  | $0.00                     | $65.09     |
|                                      | 12/01/2020     | $43.62    | $7.70  | $14.75  | $0.00                     | $66.07     |
|                                      | 06/01/2021     | $44.64    | $7.70  | $14.75  | $0.00                     | $67.09     |
|                                      | 12/01/2021     | $45.65    | $7.70  | $14.75  | $0.00                     | $68.10     |

For apprentice rates see "Apprentice- LABORER"

| CARPENTER                            | 03/01/2018     | $40.28    | $9.90  | $17.50  | $0.00                     | $67.68     |
| CARPENTERS-ZONE 2 (Eastern Massachusetts) | 09/01/2018     | $41.32    | $9.90  | $17.50  | $0.00                     | $68.72     |
|                                      | 03/01/2019     | $42.35    | $9.90  | $17.50  | $0.00                     | $69.75     |
### Apprentice - CARPENTER - Zone 2 Eastern MA

**Effective Date:** 03/01/2018

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**Notes:**
- % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
- Step 1&2 $29.76/ 3&4 $35.45/ 5&6 $52.14/ 7&8 $57.89

Apprentice to Journeyworker Ratio: 1:5

### CARPENTER WOOD FRAME

**CARPENTERS - ZONE 2 (Wood Frame)**

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As of 9/1/09 Carpentry work on wood-frame WEATHERIZATION projects shall be paid the WOOD FRAME CARPENTER rate.
### Carpenter (Wood Frame) - Zone 2

**Effective Date: 10/01/2017**

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**Effective Date: 04/01/2018**

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**Notes:**
- % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
- Step 1&2 $18.88/ 3&4 $26.26/ 5&6 $33.31/ 7&8 $35.93
- Apprentice to Journeyworker Ratio: 1:5

### Carpenter Wood Frame (All Other Work)

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### Cemnt Masonry/Plastering

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### Classification

#### Effective Date - 01/01/2018

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**Notes:**
Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

**Apprentice to Journeyworker Ratio:** 1:3

### Chainsaw Operator

**Laborers - Zone 1**

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For apprentice rates see "Apprentice - Laborers - Zone 1"

### Clam Shells/Slurry Buckets/Heading Machines

**Operating Engineers Local 4**

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For apprentice rates see "Apprentice - Operating Engineers Local 4"

### Compressor Operator

**Operating Engineers Local 4**

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For apprentice rates see "Apprentice - Operating Engineers Local 4"

### Deleader (Bridge)

**Painters Local 35 - Zone 2**

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For apprentice rates see "Apprentice - Operating Engineers Local 4"
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**Notes:**
- Steps are 750 hrs.
- Apprentice to Journeyworker Ratio: 1:1

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For apprentice rates see "Apprentice - LABORER"
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Notes: App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80
Apprentice to Journeyworker Ratio: 2:3***

ELEVATOR CONSTRUCTOR
ELEVATOR CONSTRUCTORS LOCAL 4
### Apprenticeship Rates - Elevator Constructor - Local 4

**Effective Date:** 01/01/2017

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**Notes:**
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio: 1:1

---

**Elevator Constructor Helper**

**Effective Date:** 01/01/2017

<table>
<thead>
<tr>
<th>Apprentice Base Wage</th>
<th>Health</th>
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<td>$39.10</td>
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<td>$70.09</td>
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For apprentice rates see "Apprentice - Elevator Constructor"

---

**Fence & Guard Rail Erector**

**Effective Dates:**
- 12/01/2017: $37.75, $7.70, $14.75, $0.00, $60.20
- 06/01/2018: $38.70, $7.70, $14.75, $0.00, $61.15
- 12/01/2017: $39.65, $7.70, $14.75, $0.00, $62.10
- 06/01/2019: $40.65, $7.70, $14.75, $0.00, $63.10
- 12/01/2019: $41.65, $7.70, $14.75, $0.00, $64.10
- 06/01/2020: $42.64, $7.70, $14.75, $0.00, $65.09
- 12/01/2020: $43.62, $7.70, $14.75, $0.00, $66.07
- 06/01/2021: $44.64, $7.70, $14.75, $0.00, $67.09
- 12/01/2021: $45.65, $7.70, $14.75, $0.00, $68.10

For apprentice rates see "Apprentice - Laborer"

---

**Field Eng. Inst. Person - Bldg., Site, Hwy./Hwy.**

**Effective Dates:**
- 11/01/2017: $42.88, $10.00, $15.25, $0.00, $68.13
- 05/01/2018: $43.59, $10.00, $15.25, $0.00, $68.84
- 11/01/2017: $44.34, $10.00, $15.25, $0.00, $69.59
- 05/01/2018: $45.06, $10.00, $15.25, $0.00, $70.31
- 11/01/2017: $22.83, $10.00, $15.25, $0.00, $48.08
- 05/01/2018: $23.26, $10.00, $15.25, $0.00, $48.51

For apprentice rates see "Apprentice - Operating Engineers"

---

**Fire Alarm Installer**

**Effective Dates:**
- 03/01/2018: $50.15, $13.00, $17.85, $0.00, $81.00
- 09/01/2018: $51.34, $13.00, $17.89, $0.00, $82.23
- 03/01/2019: $52.53, $13.00, $17.93, $0.00, $83.46

For apprentice rates see "Apprentice - Electrician"

---

**Fire Alarm Repair / Maintenance / Commissioning**

**Effective Dates:**
- 03/01/2018: $37.61, $13.00, $15.93, $0.00, $66.54
- 09/01/2018: $38.51, $13.00, $15.96, $0.00, $67.47
- 03/01/2019: $39.40, $13.00, $15.98, $0.00, $68.38

For apprentice rates see "Apprentice - Telecommunications Technician"

---

**Fireman (Asst. Engineer)**

**Effective Date:** 12/01/2017

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For apprentice rates see "Apprentice - Operating Engineers"
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For apprentice rates see "Apprentice- LABORER"

### FLOORCOVERER

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### Apprentice - FLOORCOVERER - Local 2168 Zone 1

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Notes: Steps are 750 hrs. % After 09/1/17; 45/45/55/55/70/80/80 (1500 hr Steps)
Step 1&2 $30.55/ 3&4 $36.49/ 5&6 $53.33/ 7&8 $59.33

Apprentice to Journeyworker Ratio: 1:1

### FORK LIFT/CHERRY PICKER

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### GENERATOR/LIGHTING PLANT/HEATERS

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

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### GLAZIER - Local 35 Zone 2

**Effective Date:** 01/01/2017

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**Notes:**
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

### HOISTING ENGINEER/CRANES/GRADALLS

**Effective Date:** 12/01/2017

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### OPERATING ENGINEERS - Local 4

**Effective Date:** 12/01/2017

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**Notes:**

Apprentice to Journeyworker Ratio: 1:6

### HVAC (DUCTWORK)

**Effective Date:** 02/01/2018

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For apprentice rates see "Apprentice- SHEET METAL WORKER"

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### HVAC (ELECTRICAL CONTROLS)

**Effective Date:** 03/01/2018, 09/01/2018

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For apprentice rates see "Apprentice- ELECTRICIAN"

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### HVAC (TESTING AND BALANCING - AIR)

**Effective Date:** 02/01/2018

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**Issue Date:** 03/15/2018

**Wage Request Number:** 20180315-059

**Page 14 of 35**
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**Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston**

**Effective Date - 09/01/2017**

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**Effective Date - 09/01/2018**

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**Notes:**

- Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

**IRONWORKER/WELDER**

**IRONWORKERS LOCAL 7 (BOSTON AREA)**

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Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR
LABORERS - ZONE 1

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For apprentice rates see "Apprentice- LABORER"

LABORER
LABORERS - ZONE 1

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Notes:
Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER
LABORERS - ZONE 1

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For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER
LABORERS - ZONE 1

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For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER
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For apprentice rates see "Apprentice- LABORER"

| LABORER: MULTI-TRADE TENDER    | 12/01/2017     | $37.50    | $7.70  | $14.75  | $0.00                     | $59.95     |
| LABORERS - ZONE 1              | 06/01/2018     | $38.45    | $7.70  | $14.75  | $0.00                     | $60.90     |
|                                | 12/01/2018     | $39.40    | $7.70  | $14.75  | $0.00                     | $61.85     |
|                                | 06/01/2019     | $40.40    | $7.70  | $14.75  | $0.00                     | $62.85     |
|                                | 12/01/2019     | $41.40    | $7.70  | $14.75  | $0.00                     | $63.85     |
|                                | 06/01/2020     | $42.39    | $7.70  | $14.75  | $0.00                     | $64.84     |
|                                | 12/01/2020     | $43.37    | $7.70  | $14.75  | $0.00                     | $65.82     |
|                                | 06/01/2021     | $44.39    | $7.70  | $14.75  | $0.00                     | $66.84     |
|                                | 12/01/2021     | $45.40    | $7.70  | $14.75  | $0.00                     | $67.85     |

For apprentice rates see "Apprentice- LABORER"

| LABORER: TREE REMOVER          | 12/01/2017     | $37.50    | $7.70  | $14.75  | $0.00                     | $59.95     |
| LABORERS - ZONE 1              | 06/01/2018     | $38.45    | $7.70  | $14.75  | $0.00                     | $60.90     |
|                                | 12/01/2018     | $39.40    | $7.70  | $14.75  | $0.00                     | $61.85     |
|                                | 06/01/2019     | $40.40    | $7.70  | $14.75  | $0.00                     | $62.85     |
|                                | 12/01/2019     | $41.40    | $7.70  | $14.75  | $0.00                     | $63.85     |
|                                | 06/01/2020     | $42.39    | $7.70  | $14.75  | $0.00                     | $64.84     |
|                                | 12/01/2020     | $43.37    | $7.70  | $14.75  | $0.00                     | $65.82     |
|                                | 06/01/2021     | $44.39    | $7.70  | $14.75  | $0.00                     | $66.84     |
|                                | 12/01/2021     | $45.40    | $7.70  | $14.75  | $0.00                     | $67.85     |

This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"

| LASER BEAM OPERATOR            | 12/01/2017     | $37.75    | $7.70  | $14.75  | $0.00                     | $60.20     |
| LABORERS - ZONE 1              | 06/01/2018     | $38.70    | $7.70  | $14.75  | $0.00                     | $61.15     |
|                                | 12/01/2018     | $39.65    | $7.70  | $14.75  | $0.00                     | $62.10     |
|                                | 06/01/2019     | $40.65    | $7.70  | $14.75  | $0.00                     | $63.10     |
|                                | 12/01/2019     | $41.65    | $7.70  | $14.75  | $0.00                     | $64.10     |
|                                | 06/01/2020     | $42.64    | $7.70  | $14.75  | $0.00                     | $65.09     |
|                                | 12/01/2020     | $43.62    | $7.70  | $14.75  | $0.00                     | $66.07     |
|                                | 06/01/2021     | $44.64    | $7.70  | $14.75  | $0.00                     | $67.09     |
|                                | 12/01/2021     | $45.65    | $7.70  | $14.75  | $0.00                     | $68.10     |

For apprentice rates see "Apprentice- LABORER"
## Classification

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### Notes:

Apprentice to Journeyworker Ratio: 1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH

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Issue Date: 03/15/2018

Wage Request Number: 20180315-059

Page 19 of 35
## Classification

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### Notes:

- **Apprentice to Journeyworker Ratio:** 1:5

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### Apprentice to Journeyworker Ratio: 1:5

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*For apprentice rates see "Apprentice - OPERATING ENGINEERS"*

### Mechanics Maintenance

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*For apprentice rates see "Apprentice - OPERATING ENGINEERS"*

### Millwright (Zone 1)

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**Issue Date:** 03/15/2018  **Wage Request Number:** 20180315-059
### Apprentice - MILLWRIGHT - Local 1121 Zone 1

**Effective Date -** 10/01/2017

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**Notes:**
- Steps are 2,000 hours

**Apprentice to Journeyworker Ratio: 1:5**

For apprentice rates see "Apprentice- LABORER"
### Apprentice - PAINTER Local 35 - BRIDGES/TANKS
**Effective Date:** 01/01/2017

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**Notes:**
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:** 1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *
01/01/2017 $42.31 $7.85 $16.10 $0.00 $66.26
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

### Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New
**Effective Date:** 01/01/2017

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**Notes:**
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:** 1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) 01/01/2017 $40.37 $7.85 $16.10 $0.00 $64.32
PAINTERS LOCAL 35 - ZONE 2

---

**Issue Date:** 03/15/2018  **Wage Request Number:** 20180315-059  **Page 22 of 35**
### Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

**Effective Date** - 01/01/2017

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**Notes:**
- Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:** 1:1

---

Classifications:

**PAINTER (TRAFFIC MARKINGS)**

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*For Apprentice rates see "Apprentice- LABORER."

**PAINTER / TAPER (BRUSH, NEW)***

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*If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.**PAINTERS LOCAL 35 - ZONE 2**

---
### Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

**Effective Date:** 01/01/2017

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**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:** 1:1

### Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

**Effective Date:** 01/01/2017

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**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:** 1:1

### PANEL & PICKUP TRUCKS DRIVER

**Effective Date:** 12/01/2016

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### PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)

**Effective Date:** 08/01/2017, 08/01/2018, 08/01/2019

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For apprentice rates see "Apprentice- PILE DRIVER"

### PILE DRIVER

**Effective Date:** 08/01/2017, 08/01/2018, 08/01/2019

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**Issue Date:** 03/15/2018  **Wage Request Number:** 20180315-059  **Page 24 of 35**
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**Notes:**

Apprentice to Journeyworker Ratio: 1:5

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**PIPEFITTER & STEAMFITTER**

*PIPEFITTERS LOCAL 537*

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**Notes:**

*1:3; 3:15; 1:10 thereafter / Steps are 1 yr.*


**Apprentice to Journeyworker Ratio:**

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**Issue Date:** 03/15/2018  **Wage Request Number:** 20180315-059  **Page 25 of 35**
<table>
<thead>
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For apprentice rates see "Apprentice- LABORER"

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**Apprentice - PLUMBER/GASFITTER - Local 12**

*Effective Date - 03/01/2018*

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*Effective Date - 09/01/2018*

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**Notes:**

**1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr**

Step4 with lic$61.00, Step5 with lic$67.99

**Apprentice to Journeyworker Ratio:**

**PNEUMATIC CONTROLS (TEMP.)**

*PIPEFITTERS LOCAL 537*

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For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"
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For apprentice rates see "Apprentice- LABORER"

| POWDERMAN & BLASTER LABORERS - ZONE 1               | 12/01/2017     | $38.50    | $7.70  | $14.75  | $0.00                     | $60.95     |
|                                                    | 06/01/2018     | $39.45    | $7.70  | $14.75  | $0.00                     | $61.90     |
|                                                    | 12/01/2018     | $40.40    | $7.70  | $14.75  | $0.00                     | $62.85     |
|                                                    | 06/01/2019     | $41.40    | $7.70  | $14.75  | $0.00                     | $63.85     |
|                                                    | 12/01/2019     | $42.40    | $7.70  | $14.75  | $0.00                     | $64.85     |
|                                                    | 06/01/2020     | $43.39    | $7.70  | $14.75  | $0.00                     | $65.84     |
|                                                    | 12/01/2020     | $44.37    | $7.70  | $14.75  | $0.00                     | $66.82     |
|                                                    | 06/01/2021     | $45.39    | $7.70  | $14.75  | $0.00                     | $67.84     |
|                                                    | 12/01/2021     | $46.40    | $7.70  | $14.75  | $0.00                     | $68.85     |

For apprentice rates see "Apprentice- LABORER"

| POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $31.80 | $10.50 | $15.50 | $0.00 | $57.80 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) TEAMSTERS LOCAL 25b | 07/01/2017 | $28.18 | $8.48  | $9.72  | $0.00 | $46.38 |

| READY-MIX CONCRETE DRIVER TEAMSTERS LOCAL 25b | 07/01/2017 | $29.48 | $8.48  | $9.72  | $0.00 | $47.68 |

| RECLAIMERS OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.17 | $10.50 | $15.50 | $0.00 | $72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS - ZONE 1 | 12/01/2017 | $37.75 | $7.70  | $14.75 | $0.00 | $60.20 |
|                                                    | 06/01/2018 | $38.70 | $7.70  | $14.75 | $0.00 | $61.15 |
|                                                    | 12/01/2018 | $39.65 | $7.70  | $14.75 | $0.00 | $62.10 |
|                                                    | 06/01/2019 | $40.65 | $7.70  | $14.75 | $0.00 | $63.10 |
|                                                    | 12/01/2019 | $41.65 | $7.70  | $14.75 | $0.00 | $64.10 |
|                                                    | 06/01/2020 | $42.64 | $7.70  | $14.75 | $0.00 | $65.09 |
|                                                    | 12/01/2020 | $43.62 | $7.70  | $14.75 | $0.00 | $66.07 |
|                                                    | 06/01/2021 | $44.64 | $7.70  | $14.75 | $0.00 | $67.09 |
|                                                    | 12/01/2021 | $45.65 | $7.70  | $14.75 | $0.00 | $68.10 |

For apprentice rates see "Apprentice- LABORER"

| ROLLER/SPREADER/MULCHING MACHINE OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.17 | $10.50 | $15.50 | $0.00 | $72.17 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"
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<th>Supplemental</th>
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**Apprentice - ROOFER - Local 33**

**Effective Date - 02/01/2018**

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**Effective Date - 08/01/2018**

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**Notes:**
1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
(Hot Pitch Mechanics’ receive $1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

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For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER

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### SHEET METAL WORKER - Local 17-A

**Effective Date:** 02/01/2018

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**Notes:**
- Steps are 6 mos.

**Apprentice to Journeyworker Ratio:** 1:4

### SIGN ERECTOR - Local 35 Zone 2

**Effective Date:** 06/01/2013

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**Notes:**
- Steps are 4 mos.

**Apprentice to Journeyworker Ratio:** 1:1

### SPECIALIZED EARTH MOVING EQUIP < 35 TONS

**Effective Date:** 12/01/2016

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### SPECIALIZED EARTH MOVING EQUIP > 35 TONS

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### SPRINKLER FITTER

#### SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1

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#### Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

**Effective Date - 03/01/2018**

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**Notes:** Apprentice entered prior 9/30/10: 40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

**Apprentice to Journeyworker Ratio:** 1:3

### STEAM BOILER OPERATOR

**OPERATING ENGINEERS LOCAL 4**

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN

**OPERATING ENGINEERS LOCAL 4**

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"
### Classification

**TELECOMMUNICATION TECHNICIAN**

**ELECTRICIANS LOCAL 103**

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#### Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

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**Notes:**

Apprentice to Journeyworker Ratio: 1:1

#### TERRAZZO FINISHERS

**BRICKLAYERS LOCAL 3 - MARBLE & TILE**

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**Issue Date:** 03/15/2018  **Wage Request Number:** 20180315-059  **Page 31 of 35**
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Notes:

Apprentice to Journeyworker Ratio: 1:3

**TEST BORING DRILLER**
LABORERS - FOUNDATION AND MARINE

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For apprentice rates see "Apprentice- LABORER"

**TEST BORING DRILLER HELPER**
LABORERS - FOUNDATION AND MARINE

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For apprentice rates see "Apprentice- LABORER"

**TEST BORING LABORER**
LABORERS - FOUNDATION AND MARINE

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For apprentice rates see "Apprentice- LABORER"

**TRACTORS/PORTABLE STEAM GENERATORS**
OPERATING ENGINEERS LOCAL 4

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For apprentice rates see "Apprentice- LABORER"

| WASTE WATER PUMP OPERATOR | OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| WATER METER INSTALLER | PLUMBERS & GASFITTERS LOCAL 12 | 03/01/2018 | $54.69 | $11.57 | $15.76 | $0.00 | $82.02 |
| | | 09/01/2018 | $56.19 | $11.57 | $15.76 | $0.00 | $83.52 |
| | | 03/01/2019 | $57.69 | $11.57 | $15.76 | $0.00 | $85.02 |
| | | 09/01/2019 | $59.19 | $11.57 | $15.76 | $0.00 | $86.52 |
| | | 03/01/2020 | $60.69 | $11.57 | $15.76 | $0.00 | $88.02 |
| | | 09/01/2020 | $62.19 | $11.57 | $15.76 | $0.00 | $89.52 |
| | | 03/01/2021 | $63.69 | $11.57 | $15.76 | $0.00 | $91.02 |

For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"

### Outside Electrical - East

| CABLE TECHNICIAN (Power Zone) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $27.14 | $7.75 | $1.81 | $0.00 | $36.70 |

For apprentice rates see "Apprentice- LINEMAN"

| CABLEMAN (Underground Ducts & Cables) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $38.45 | $7.75 | $9.53 | $0.00 | $55.73 |

For apprentice rates see "Apprentice- LINEMAN"

| DRIVER / GROUNDMAN CDL | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $31.66 | $7.75 | $9.44 | $0.00 | $48.85 |

For apprentice rates see "Apprentice- LINEMAN"

| DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $24.88 | $7.75 | $1.75 | $0.00 | $34.38 |

For apprentice rates see "Apprentice- LINEMAN"

| EQUIPMENT OPERATOR (Class A CDL) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $38.45 | $7.75 | $13.61 | $0.00 | $59.81 |

For apprentice rates see "Apprentice- LINEMAN"

| EQUIPMENT OPERATOR (Class B CDL) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $33.92 | $7.75 | $10.21 | $0.00 | $51.88 |

For apprentice rates see "Apprentice- LINEMAN"

| GROUNDMAN | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $24.88 | $7.75 | $1.75 | $0.00 | $34.38 |

For apprentice rates see "Apprentice- LINEMAN"

| GROUNDMAN -Inexperienced (<2000 Hrs.) | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $20.35 | $7.75 | $1.61 | $0.00 | $29.71 |

For apprentice rates see "Apprentice- LINEMAN"

| JOURNEYMAN LINEMAN | OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $45.23 | $7.75 | $16.61 | $0.00 | $69.59 |
### Apprentice - LINEMAN (Outside Electrical) - East Local 104

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<td>$33.92</td>
<td>$7.75</td>
<td>$5.02</td>
<td>$0.00</td>
<td>$46.69</td>
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<td>5</td>
<td>80</td>
<td>$36.18</td>
<td>$7.75</td>
<td>$5.09</td>
<td>$0.00</td>
<td>$49.02</td>
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<td>6</td>
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<tr>
<td>7</td>
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<td>$7.75</td>
<td>$7.22</td>
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<td>$55.68</td>
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</tbody>
</table>

**Notes:**

**Apprentice to Journeyworker Ratio**: 1:2

**TELEDATA CABLE SPLICER**

OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Base Wage</th>
<th>Health</th>
<th>Pension</th>
<th>Supplemental Unemployment</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2016</td>
<td>$28.98</td>
<td>$4.25</td>
<td>$3.12</td>
<td>$0.00</td>
<td>$36.35</td>
</tr>
</tbody>
</table>

**TELEDATA LINEMAN/EQUIPMENT OPERATOR**

OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Base Wage</th>
<th>Health</th>
<th>Pension</th>
<th>Supplemental Unemployment</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2016</td>
<td>$27.31</td>
<td>$4.25</td>
<td>$3.07</td>
<td>$0.00</td>
<td>$34.63</td>
</tr>
</tbody>
</table>

**TELEDATA WIREMAN/INSTALLER/TECHNICIAN**

OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Base Wage</th>
<th>Health</th>
<th>Pension</th>
<th>Supplemental Unemployment</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2016</td>
<td>$27.31</td>
<td>$4.25</td>
<td>$3.07</td>
<td>$0.00</td>
<td>$34.63</td>
</tr>
</tbody>
</table>

**TREE TRIMMER**

OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Base Wage</th>
<th>Health</th>
<th>Pension</th>
<th>Supplemental Unemployment</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/31/2016</td>
<td>$18.51</td>
<td>$3.55</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$22.06</td>
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</tbody>
</table>

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company’s equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

**TREE TRIMMER GROUNDMAN**

OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Base Wage</th>
<th>Health</th>
<th>Pension</th>
<th>Supplemental Unemployment</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/31/2016</td>
<td>$16.32</td>
<td>$3.55</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$19.87</td>
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</tbody>
</table>

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company’s equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

**Additional Apprentice Information:**

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 3:3, 4:4, 4:5, 4:6, 5:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.
APPENDIX B

TELEVISION INSPECTION LOGS

(NOT INCLUDED – FURNISHED UPON REQUEST)
APPENDIX C
MANHOLE INSPECTION LOGS
(NOT INCLUDED – FURNISHED UPON REQUEST)
Disclaimer: Quincy Point Pump Station was recently rehabilitated. The accuracy of flows and required bypass pumping in this document may have changed.
APPENDIX E

WEEKLY HYDRANT METER LOG
WEEKLY HYDRANT METER LOG

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location of Hydrant</th>
<th>Initial Meter Reading</th>
<th>Final Meter Reading</th>
<th>Total Volume (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
APPENDIX F

HOLBROOK STREET SIPHON RECORD DRAWING

(NOT INCLUDED – FURNISHED UPON REQUEST)